The Builder.

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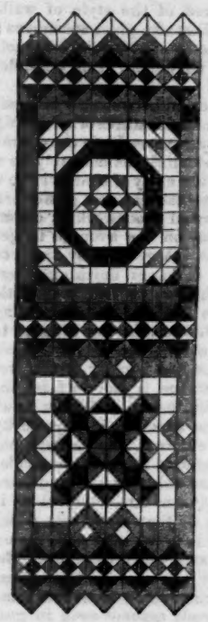


The Æsthetics of House Building.

OUR last observations upon house-planning regarded from an artistic point of view* we concluded with an observation, suggested by the remarks of a German architect, on the stereotyped nature of plan and requirements in English houses. The charge would apply not less, and perhaps more, to the finishing and fitting, the decorative part of the interior. Fashions vary in this respect, but each fashion rules for the time almost despotically, the ornamental treatment of habitations being mainly in the hands of tradesmen or employers of skilled workmen, who, of course, find it most convenient and economical to pursue exclusively the style which seems to take public fancy at the moment.

We are not, however, here speaking so much of furnishing, and furniture design, which is a separate subject in itself, as of the general question of the internal treatment of a house, which has to be considered when its architectural exterior and its plan and arrangement are completed. Having got the strictly architectural qualities of our house as they should be, or as we wish them to be, on what principle shall we finish the interior so as to keep up that sense of æsthetic propriety, of architectural interest combined with fitness, which we will suppose to have been attained in the plan and in its external architectural expression?

Speaking generally, this involves, in the first instance, the question, how far can architectural treatment, in the severer sense, be extended to the internal finishing of a house? Civilisation is rather at variance with the architect in regard to this point. In ruder ages than the present, the monumental aspect which marked the exterior of the castle, with its surfaces of solid and massive masonry, was equally predominant in the interior. With greater refinement of manners and modes came the desire for a somewhat more luxurious and comfortable *entourage*, and the bare necessities of stone walls became draped with hangings and tapestries, the weaving of which was an important form of art-manufacture during the period of their prevalence. As the demand for such adornments increased and extended to lower grades in the scale of society, came the cheaper substitutes for hangings, such as stamped leather, painted cloth, and finally wall-papers; for the real origin of such decorations, there can be little doubt, is from the reminiscence of the figured tapestry pieces which they supplanted. Only there is the important distinction, that whereas the tapestry showed itself as a hanging separate from the wall, and the latter was left in pristine truthfulness behind it, the modern custom has almost invariably interposed layers of plaster or other lining, which form a permanent mask to the actual constructive material, and completely transform the inner character of our houses, by adding linings of a permanent and unremovable kind.

It is in great measure this plastering practice which has, in the eyes of some architects, removed house-building from the category of high-class architecture, or led to efforts to oppose to this taste a severer and more strictly architectural internal finish. During the earlier years of the Gothic revival this re-action was carried by some enthusiasts to the extent of returning to bare walls in the interior, sometimes in buildings bearing the ordinary character of domestic architecture externally, sometimes in revivals of the feudal castle. This can scarcely be considered a practicable, or even a truthful solution of the problem of internal architectural effect in dwelling-houses. Not practicable, because our less hardy habitudes of life demand more warmth and comfort in interiors than would have satisfied our ancestors; and therefore not truthful, as contradicting and ignoring the requirements of the day. But there is certainly a medium between this and the wholesale incrustation of the interior of our houses with so objectionable a material in many ways as plaster; dirty in putting on, damp and unwholesome when new, friable and perishable when old. And there is also the question to be considered, what portions of an interior do admit of really architectural treatment, and where it is in place and where not.

The porch and entrance-hall of a house, whether large or small, are the proper artistic connecting-links between the exterior and the living-rooms, between the architecture and the upholstery. This is commonly-recognised in large mansions, seldom in ordinary-sized or small houses, town houses especially. But the architectural treatment of the hall, even where the house is on a small scale, is the most natural and fitting. People do not *live* in their halls and staircases, or make sitting-rooms of them; they are places of passage, and of an only semi-private character. So far, therefore, it is perfectly fitting that architectural character, in its masonic form, should invade the interior of the house, and connect it with the exterior. Even where a small scale and small means make architectural splendour impossible, the treatment of the hall and staircase with the same solid and permanent materials that are used in the external design at once gives an architectural importance to the house, an impression of unity between exterior and interior, and furnishes a contrast to the more luxurious and artificial finish of the rooms, as well as a reminder that, in spite of any decorative deception in the latter, the inhabitant really is in a structure built of solid and lasting materials. The difficulty of warming a hall and staircase architecturally built is no greater than if it were plastered and upholsteried from top to bottom,—if anything, rather less. So that here we can indulge in our wall of stone, or brick, or marble, ornamented with inlay or otherwise, and our architecturally constructed marble or stone staircase, and stained windows, our timber or vaulted ceiling, and tiled floor, and not feel that architecture is altogether left out in the cold, or that we are dwelling in a place all constructed of shams and cradling and plaster disguises.

When we come really into the sitting-rooms, however, architecture must, to a certain extent, concede to comfort, luxury, and to ornament of a more delicate and finished description than what would be suitable in connexion with architecture proper. But whether this generally is and has been attained in the best manner is another question. We have ceilings and walls to consider mainly; floors offer less matter for taste, since no material can displace wood very well for general suitableness; and carpets, which seem to be a *sine quâ non* mostly in the scheme, both for decorative effect and comfort, scarcely come under the head of architectural treatment. The question of carpets, it is true, has come up a good deal in recent lectures and other publications in regard to ornamental treatment of dwellings. There is now a taste, among a certain set of critics and dilettanti, for tolerating carpets only in the form of coverings loosely laid over a polished or otherwise beautified wooden floor; the stated reason being that the carpet laid down in the old fashion, cut to fit the shape of the room, is a "sham"; that the real wooden floor ought to show as the basis, and the carpets only be laid on where wanted for warmth to the feet; the cutting is condemned, too, as a needless waste, as unsuiting a valuable carpet for any other room in the case of a change of residence within a short period. There is practical sense in this, and there is something also in the æsthetic motive named for showing the floor; let it be admitted, moreover, that a room with a dark polished floor, and a richly-tinted carpet in the centre, is very happily treated for artistic effect. But that it is as comfortable to walk about in as a room with a homogeneous carpet, strained and fixed down, we fear can only be maintained by æsthetic enthusiasts. To rise to the ceiling, however: if the hiding of the upper surface of the floor by a carpet is a sham, much more must be the hiding of the whole construction of it, the bearing timbers, by a plaster ceiling. Viollet-le-Duc, in his little story showing "How to build a House," is sarcastic on this point, and introduces Master Paul, who is evidently the type of ordinary non-professional perception, as having never considered that there was any distinction "between a sheet of paper stretched on a board, and a ceiling." Both were white expanses, and that was all. It becomes a difficult question, however, what you

* See p. 879, *ante*.

are to do with the top of a room, if plaster, o something analogous, is to be excluded entirely. The French architect just quoted gives his own sketch of the way to do it, by covering the room with ceiling joists square in section, but placed diamond-wise, corners down, and showing half of each side, meeting that of the next joist at an angle of 45°. That is an honest and a solid construction, no doubt, but a somewhat wasteful one, for it uses the wood in a section by no means economical of strength; and, after all, what about the appearance when it is done? The ceiling-joists are proposed to be decorated on each of the under-sides; but it must have rather a ridge-and-furrow effect,—not neat or finished looking, though satisfying the judgment more than the white expanse with the absurd "cornice" which forms its usual arrangement. Then there is the question of light, which a purely timber ceiling stands a good deal in the way of, unless painted in light colours, and then the artistic value of the wood as a material is gone. A compromise between the two perhaps promises the best result. The main joists and ceiling joists (if both are employed) to be left half-visible, and the spaces between ceiled and lightly decorated, not by any means necessarily with plaster. If wall-paper can be laid on a thin backing of wood, supported by wall-stiles,—a far better lining to a room than plaster,—why not treat the interspaces of the ceiling the same way, and paper them? We are speaking of cases where a certain decorative effect is desired, without the costliness of elaborate painting. The desire to obtain this is the real origin of wall-paper; and there seems no reason why what is applicable as a decoration to the surface of the wall should not be applicable to that of the ceiling, especially when treated as suggested, in compartments divided by the visible constructive carpentry; or if plaster were used in the interspaces (in which case it is certainly far less objectionable than when spread over the whole surface, hanging from a rickety cradling of laths), the lately-revived form of *sgraffito* decoration might be used in such a situation with very good effect. A method of treating the surface of plaster ornamentally while in a fresh state, by impressing a slightly-sunk design on the soft surface, was suggested in these columns some years ago;* *sgraffito*, however, would be more economical to execute than the impressed ornament, probably, though a little more *prononcé* for a ceiling, and not affording, as the impressed ornament would, suggestions and opportunities for a delicate relief in colour.

Our choice of treatment is less limited when we come to the walls of our rooms, than perhaps either on floor or ceiling. But here in the main the end should be, what it generally is not, to approach as near to a solid and architectural character as possible. The use of woodwork in the lining of rooms,—of course an expensive method, but an eminently satisfactory one as combining comfort and architectural effect,—has undergone curious fluctuations of taste. From the entirely wainscoted room not uncommon in interiors of our Debased Classic period, we come to the wainscot waist-high or thereabouts, and then down to the mere skirting-board; and now the wainscot is rising again, and in designs for rooms which make pretension to artistic treatment it is common to find it carried three-fourths up the wall, leaving only the comparatively narrow strip at the top to be turned over to the paper-hanger. We confess to a wish to limit the field of operations of this functionary as far as may be; and still more to limit that of his forerunner and sworn brother the plasterer. The latter, indeed, may be entirely dispensed with, even where a wall is completely papered, by the substitution of a thin veneer of wood on grounds for the traditional "four-coat work." But the resuscitation of the high wainscot suggests the absolute avoidance of all these covering expedients in such rooms as dining-rooms, libraries, &c., where lightness and gaiety of appearance are not principal objects. No dining-room could be more satisfactorily, more suitably finished than one wainscoted with rather dark wood to a considerable height, and then the wall left a warm-tinted compressed red brick above, with a stone cornice or corbels, or (better still perhaps) a cornice of moulded and ornamented brick, receiving the ends of the floor timbers or the ceiling joists above. Of course where a higher artistic result was aimed at the upper space or frieze might be filled with stone carving; equally also with fresco painting, or with "tarsia de marbre" after the manner invented by Baron Triqueti, and as to which we have before expressed surprise that the process should not have been further used, if only in the way of experiment: or if we are kept to our brick wall above the wainscot, we may combine terra-cotta ornament with it with very good effect.

When we come to the apartment which,—except the lady's boudoir,—demands most of all lightness and luxury in its style of treatment, the drawing-room, we must probably, in ordinary cases, be driven back upon paper for making beautiful our walls. A well-known architect has observed, in the preface to a book on Gothic furniture, that while the hall, dining-room, and library lend themselves admirably to this heavy and massive style of furnishing, he is obliged to confess a difficulty in approaching the drawing-room with his Gothic furniture, which is at variance with the lightness and airiness looked for in a modern drawing-room. This is true, and natural enough, since the drawing-room,—the *salon*,—is an invention of the modern era, and had scarcely any real counterpart in the Mediæval life at all. And the same writer suggests that, as the drawing-room must be in keeping with the style of the other rooms, greater dependence must be placed on "textile fabrics" to give the requisite effect, and carry off the otherwise too weighty and angular appearance of the furniture. In the same spirit, in approaching the drawing-room, we must leave some of our architectural sympathies behind us, and be content to coquet with the upholsterer and paper-hanger a little. As what is allowable in stage decoration would be tawdry in any other place; so what would be shocking to the architecturally constituted taste in any other part of the house must be considered in place in the drawing-room. Such seems to be the verdict of public taste at least; and certainly we can hardly hope to make a background for evening costumes out of any, save the very costliest, of architectural materials. In the matter of these important and much-used paper wall-coverings, however, public taste has had its fluctuations, many and great. The history of the subject may be studied in a full though compact form in Mr. Crace's admirable paper read before the Institute of Architects at two successive meetings a good many years since, and which, for some reason, is still in its MS. form in their library, not having received the usual consecration of print. People scarcely know, now-a-days, to what heights paperhanging design has soared. A quotation given by Mr. Crace from the prospectus of an ambitious "artist" of Battersea, in 1754, is so curious, and, from our present point of view, so amusing, that it may be reproduced here. The advertiser (hight Jackson) had invented a system of what he called "printing papers in chiaroscuro" so successfully, that, in his own words:—

"The person who cannot purchase the [antique] statues themselves may have these prints in their places, and thus effectually show his taste: it is the choice, and not the price, which discovers the true taste of the possessor; and thus the Apollo of the Belvidere Palace, the Medicean Venus, or the Dying Gladiator, may be disposed in niches, or surrounded with a mosaic work in imitation of frames, or with festoons and garlands of flowers, with great elegance and taste; or, if preferred, landscapes after the most famous masters may be introduced into the paper; in short, every bird that flies, every figure that moves upon the surface of the earth, from the insect to the human, and every vegetable that springs from the ground,—whatever is of art or nature,—may be introduced into this style of fitting up rooms. It need not be mentioned to any person of taste how much this way of finishing, with colours softening into one another with harmony and repose, excels every other kind of paper-hanging hitherto known, though it has none of the gay, glaring colours in patches of red, green, yellow, or blue, which are to pass for flowers and other objects in the common papers; nor are there lions leaping from bough to bough like cats, houses in the air, clouds and sky upon the ground,—a thorough confusion of all the elements; nor men and women, with every other animal, turned monsters (like the figures on the Chinese papers) ever to be seen in this work. Persons who would prefer the gaudy and unmeaning papers (so generally to be met with) to those done by the inventor of this, would prefer a fan to a picture of Raffaelle."

That Mr. Jackson, of Battersea, had faith in himself is at least evident; he makes a "point," however, in his remark about the "choice and not the price" being the criterion of taste; and, after all, is his notion of the representation of the great designs of the antique, for instance, on wall-paper, in every sense so contemptible as all modern criticism would judge it to be? If we come to the question of household art for the poor, how much of grace and brightness might not some of those undying forms impart to the home of an artisan, even though only represented by a mechanical process on paper? The forms are the same, at least, however delineated. The concluding sentence of the quotation is oddly prophetic in a way. If Mr. Jackson were alive now, he might meet plenty of people who "prefer a fan (Japanese) to a picture by Raffaelle," and get credit for the preference, too, with themselves and others. As to the main question, we have arrived now at the opposite extreme from the Battersea taste; descending or ascending (as the reader will) from landscape to natural foliage, thence to conventional foliage, to diaper, and to spots. Mr. Eastlake's sensible and suggestive little treatise, "Hints on Household Taste," which has found a public, represents pretty correctly the average of good taste among the minority at the present moment. It has, at least, the great merit of inculcating moderation and reticence in the decoration of houses. One may get to be too moderate, however; one could imagine, at any rate, getting a little tired of the style of wall-papers of which Mr. Eastlake gives specimens; one may strive to put too much thought into such modes of decoration, no doubt; it is possible, also, to have too little.

The coincidence of design between the internal and the external ornamental features of a dwelling is a point which mostly receives little consideration, though it is one which should certainly go a great way towards giving unity of character to a house. Generally, when the external stonework is chamfered the internal woodwork is chamfered; we do not seem on the average to get much further than that. A good many forms of work, habitually used in house finishing internally, are stereotyped, and are used with little thought of their origin or fitness; though many of them really originated in this very attempt to make the internal and external design correspond. The usual form of door and window architraves and mouldings, for instance, is derived from the period when the predominance of Italian detail was universal, and has survived in a majority of cases where the external architecture has changed. It has become, in fact, the vernacular of the house joiner; and this very fact is adduced by advocates of the Queen Anne revival as in favour of the adoption of that style, with which these details, familiar to every workman, harmonise sufficiently to ensure unity of result. But there is absolutely no reason, except precedent and habit, for the forms which these and other internal details commonly assume even in good houses, and which are often at variance with the external detail of the building.

Probably no style among the various modern revivals has been so successful in the way of securing artistic effect of colour and general effect in interior fittings, combined with suitability and convenience of forms, as the Queen Anne, the revival of which architecturally has in fact almost entirely arisen from the predilection of certain artists and architects for the furniture style of that period; so that in this case the external design has been fitted to and made to follow the internal, which seems the reverse of the proper order of things. The "Queen Anne" is a furniture style, in fact, and its forms suit cabinet-making much better than building. The Gothic, on the other hand, is pre-eminently a masonic style, and there is the converse difficulty, in this case, of treating the furniture and fittings so as to correspond with the architectural design, without rendering them heavy and unsuitable in form. Amongst the many clever and picturesque designs for Gothic furniture that have been turned out, it is seldom that this difficulty has been altogether got over, and in turning over such a collection as Mr. Talbert's book of designs for Gothic furniture, and others of the kind, one cannot but be struck not only with the ingenuity and the effectiveness certainly of many of the designs, but also with their predominant heaviness, which in fact we suspect has been a practical bar to their acceptance in many cases. It is curious to compare with recent furniture designs some of the works which were authorities with the generation or two previous. When the admiration for Greek architecture was at its height, Mr. Thos. Hope published his book of designs for furniture and decoration, engraved in the severe style of the day, in line only, without either shading or colour. These, in fact (so far as the furniture designs are concerned) chiefly aim at the correct reproduction of Greek forms, or forms in complete coincidence with pure Greek taste. In many of them the direct imitation of architectural detail where the subject does not suit it (sideboards with elongated classic columns for legs, &c.) results in a thin, starved, and stiff effect; but many objects, in particular

* See an article on "The Use of Plaster in Decoration," in *Builder* of June 26, 1869.

the chairs represented, are far superior, in combination of artistic form with convenience, to anything that the more recent revivals have turned out. They are free from the heaviness and stiffness of line which characterise furniture and decoration in the neo-Gothic taste, and at the same time from that "wanton curvature" which Mr. Talbert, in the work above referred to, justly describes as opposed to true taste, and from which some of the Queen Anne furniture (later manner) is by no means free.

The mention of Mr. Hope's book, now (according to the usual course of things) forgotten by the adherents of a more recent taste, suggests some of the higher flights to which the æsthetic treatment of the habitation may aspire, when circumstances permit their indulgence. In an ordinary-sized house there can be no doubt that good taste demands a general keeping in the style of the different apartments in relation to each other. A house small enough to be readily grasped, so to speak, as a whole, must be treated so. But in a larger mansion there may be scope for the exercise of much artistic skill, taste, and feeling, in rendering different apartments the opportunities for the development of various styles of design, or, at all events, of various effects, gay or sombre. Mr. Hope's book had for its primary object the suggestion for this kind of treatment, chiefly derived from what he had himself carried out; and we may quote one account which he gives of the decorative treatment of a room, the key to which was the Cephalus and Aurora of Flaxman; comparatively recent as the work is, the kind of effect aimed at, and the phase of taste exhibited, are so diverse from what architects trouble themselves with now, as to seem almost like the work of another age. He gives an outline perspective of the apartment,—in the days before colour-printing authors had to content themselves with merely describing the colour:—

"The central object in this room is a fine marble group executed by Mr. Flaxman, and representing Aurora visiting Cephalus on Mount Ida. The whole surrounding decoration has been rendered in some degree analogous to these personages and to the face of nature at the moment when the former of the two, the goddess of the morn, is supposed to announce approaching day. Round the bottom of the room still reign the emblems of night. In the supports of the black marble table are introduced medallions of the god of sleep and the goddess of night. The bird consecrated to the latter deity perches on the pillars of a black marble chimney-piece, whose broad frieze is studded with golden stars. The sides of the room display, in satin curtains, draped in ample folds over panels of looking-glass (which reflect the group), and edged with black velvet, the fiery hue which fringes the clouds just before sunrise; and in a ceiling of cooler sky are sown, amidst a few still unextinguished luminaries of the night, the roses which the harbinger of day, in her course, sprinkles on every side around her."

Well, we will not say that is quite in pure taste; it cannot be denied that there is something a little too prosaic and material in such a way of treating the emblems of night and morning. But the suggestion of thus decorating a room with a definite meaning, and especially of making a fine work of art, such as a statue of an ideal subject (now-a-days, we suppose, a *cloissonnée* enamel jar would be substituted), the keynote of the whole, is one susceptible of almost endless amplification, and might afford occasion for the realisation of very beautiful results for those who may have the opportunity for cultivating in this higher development the æsthetics of house-building.

LIGHT IN LONDON.

From the necessary extent of such works as those mentioned in our last,* the reader may derive some notion as to the necessary cost of them; and it will, therefore, be readily understood that the sum we have set down,—six to seven and a half millions sterling,—as the amount expended in the erection and fitting of them, is not very far from the truth. We shall accordingly proceed to show now the extent and cost of the gas mains; for as nineteen-twentieths of the whole of the capital sunk in the London gas companies are usually expended in buildings and machinery, as well as mains and service-pipes, it follows that the cost of the one will necessarily give us that of the other.

The extent of the gas mains throughout London must of course be determined, first, by the total length of the streets and roads; and, secondly, by the average number of mains laid down in each of them. Now, as to the length of the London streets, we find by a return of the metropolitan police in 1850, that the streets, roads, &c., included in the "*Inner*" police-district, were 1,700 miles long, while those in the City measured 50 miles, or 1,750 miles together. Since that date, however, we are informed by Colonel Henderson no return has been made, nor any record as to the Inner district kept. The Inner police district coincides very nearly with the limits of what is termed "Registration London," or London as at present defined by Act of Parliament; but what may be the exact length of the streets within the same boundary at the present time, there are, for the reason above given, no means of ascertaining with any positive accuracy. Still, since the gross number of houses in the Inner police-district and Registration-London increased between 1850 and 1871 at the rate of very nearly 50 per cent., it is but fair to assume that the length of the streets and roads increased at that rate also; so that as $1{,}750 + \frac{1{,}750}{2} = 2{,}625$, it is plain that the total length of the streets and roads of London proper cannot now be less than 2,500 miles in round numbers.

The average number of mains extending along each of these streets is very difficult to arrive at. Where a "junction" occurs there will be sometimes as many as fifteen to twenty different mains beneath the one thoroughfare, many of which would be now what are termed "dead mains,"—that is to say, unused at the present time. Along the Strand again there are five mains, in some portions of Oxford-street three, and in Piccadilly two in one part and three in another. Hence it is by no means easy to come at anything like an average, and, consequently, the united length of the London gas-mains has been variously estimated. Mr. Barlow, a good authority, writing on the subject last year, said "unfortunately there is not at this moment a return of the total number of miles of mains laid down by the metropolitan gas companies. The Paris gas company has only 960 miles of mains, but Paris is a compact city, and the gas-works are so arranged as to avoid unnecessary extensions of mains. The Alliance Dublin Company, on the other hand, has as many as 3,000 miles. We can, therefore, at present hazard only a conjecture as to the length of the mains laid down in the metropolitan district; but between Beckton on the one side and Fulham or Wormwood Scrubs on the other, and between Lewisham on the south and Hampstead-heath on the north, there must be many thousands (probably ten thousand) miles of pipes." Nevertheless, with all due deference to one so qualified to speak on the matter, we are satisfied that this is by far too extensive an estimate, seeing that the number of miles of streets included within these limits is not more than 2,500, and the above calculation would give an average of *four mains* to each street throughout the metropolis. This, however, as we have shown, is nearly double the number of mains there are in parts of Piccadilly, and one-fourth more even than those in all Oxford-street.

On the other hand, Mr. Fry, the Surveyor to the Board of Works for the Strand District, is of opinion that the total length of the gas-mains throughout London is somewhere about 6,000 miles; still this gives rather *more than two* mains to each thoroughfare, and as there are some hundreds of miles in the small suburban districts in which there is only *one*, we are inclined to believe that (even allowing for those localities like the Strand, in which, as we have said, there are five mains; and taking into consideration the "junctions" before referred to, where as many as fifteen or twenty occasionally meet together), the average of two mains to each of the London thoroughfares would appear to us to be nearer the truth than that which would give four mains to every one of the streets throughout the metropolis.

Well, then, assuming the united length of the London gas-mains to be 5,000 miles (the entire sewers of London, according to Sir Joseph Bazalgette, are only 1,300 miles long; and the collective water-mains, according to a return made by the several water companies to the Commissioners appointed by the Board of Trade in 1872, but 2,800 and odd miles in length), the next question to be settled is,—What would be the *gross cost* of them? The mains are generally made of cast iron, joined together with socket joints, and in lengths of three yards. The sockets are usually from 3 in. to 6 in. deep, according to the different sizes of the pipes. Through these mains the gas of some large establishments has to be conveyed several miles. The diameter of the pipes varies from about 2 ft. (which is the size of the Oxford-street main) to 6 in. or even less, which is the calibre of the branch pipes used for the lighting of the small streets in the suburbs. The size of the main has of course to be in proportion to the quantity of gas to be transmitted through it; for if the pipe be too large there is useless expense incurred, and if on the other hand it be too small the supply is correspondingly deficient,—the rule being that the sum of the areas of the sections of the mains proceeding immediately from the gasholders should be equal to the sum of all the areas of the sections of the various branch pipes which they have to supply. The average diameter of the mains is generally assumed to be from 12 in. to 15 in.; but this estimate again we are convinced is too large; for though the mains in some of the principal thoroughfares may be of even greater calibre, it should be borne in mind that the branch pipes supplying the many miles of small streets and lanes in the suburbs are not half that size. Hence it appears to us that, taking one with another, 9 in. diameter would be nearer the average mark. Now the cost of such a cast-iron pipe, including the laying down and making good, may be taken at from 7*s.* 6*d.* to 10*s.* the yard run or from 660*l.* to 800*l.* per mile. Let us however take the mean or 770*l.* per mile run as the average cost of the London gas mains, and then multiplying this by 5,000 for the total number of miles of such mains throughout London, we come to the conclusion that the entire gas mains distributed throughout the metropolis must have cost the large sum of three millions and a half of money.

This estimate has been framed, it will be seen, with all due caution, and with every desire to underrate rather than overrate the expense. It differs largely, therefore, from the calculations of most gas-engineers, who generally assume the gross length of the London mains to be not less than 10,000 miles—the average diameter of the pipes to be 15 in.—and the average expense of them to be as much as 25*s.* to 30*s.* the yard run, or from 2,000*l.* to 2,500*l.* per mile; so that at this rate the gross cost of the London mains would amount to between *twenty and twenty-five millions of money!*—which is utterly absurd, seeing that the whole of the capital sunk in the metropolitan gas companies does not exceed, as we have shown, *ten millions sterling*.

But if the entire gas mains of London must have cost at the very least three and a half millions of pounds to lay them down, how much money does it require yearly to keep them in a state of continual repair? This point we are enabled to settle by means of the same accounts to which we have made such repeated reference. For we find by turning once more to the "Revenue Account," given in the official Returns, that the "repair, maintenance, and renewal of mains and service pipes" costs the Chartered Company 28,564*l.* a year, the Imperial 9,433*l.*, and the whole of the other seven companies 25,282*l.*; so that the entire sum required to be expended by the united metropolitan gas companies for this purpose amounted in the year 1874 to not less than 63,280*l.* Now 63,280*l.* for 2,500 miles of streets gives an average expense of rather more than 25*l.* per mile for the repair and renewal of the several gas conduit-pipes throughout London.

The next point in the inquiry is,—What is the number of public lamps in London? This luckily the Government returns enable us to determine with all due statistical accuracy. Under the head of "Statement of Gas made and sold," there is a table printed in connexion with the accounts of the several London Gas Companies, and one of the columns in this gives the number of public lamps supplied by each company. These at the end of the year 1874 were as follow:—The Chartered supplied gas to a few more than 15,000 such lamps; the Imperial to very nearly 17,000; and the remaining seven companies to 22,000 odd; so that altogether there were 54,109 public lamps in London lighted by the united metropolitan gas companies.* (Mr. Barlow estimated the number of public lamps throughout London at the prodigious number of 360,000,—but upon what *data* other than guess-work it is impossible to imagine.) There are then 54,000 and odd public lamps distributed throughout the 2,500 miles of street in London. Now this is in the proportion

* See p. 985, *ante*.

* The number of public lamps supplied by the other companies were: the Phœnix, 5,497; the London, 4,821; the Commercial, 3,796; the South Metropolitan, 3,6 6; the Surrey Consumers, 1,949; the Independent, 1,507; and the Ratcliff, 870.

of one lamp to about every 80 yards of roadway. In Tottenham-court-road the distance between the street-lamps is in some parts 70 yards; in Great Russell-street, 60 yards; in New Oxford-street, 55 yards; whilst in Bedford-square, the lamps are but little more than 30 yards apart. Hence there appears to be no uniform rule as to the proportion of lamps to a given length of thoroughfare; and consequently if there be but 54,000 public lamps in all London, and the average distance between them is 80 odd yards, those in the suburbs must be considerably wider than that apart, seeing that the lamps in the more populous parts of the metropolis are not half that distance from each other. And yet by the Metropolis Gas Act of 1860 it is specially ordained that the gas companies are not to be *compelled* to light any district where the lamps are at a greater distance apart than 75 yards!

The public lamps of London being then some 54,000 in number, we have now, in order to carry out our present inquiry in all due order, to ascertain the expense of setting them up. An ordinary street lamp-post with the lamp and fittings complete, we are credibly informed, will cost about 2*l.* 10*s.*, including the fixing of it. Hence it follows that the outlay required for erecting the entire number of street-lamps in London would amount, in round numbers, to 135,000*l.*

So far we have progressed satisfactorily enough in our investigation: we have ascertained what it has cost to establish the several London gas-works; what is the length, as near as can be, of the several gas-mains throughout the metropolis; and what has been the probable expense of laying them down; what is the number of public lamps distributed through the streets and along the roadways of the capital; what has been the amount of money devoted to the erection of the 54,000 and odd lamp-posts required for the lighting of the public thoroughfares; and accordingly, in regular sequence, we come now to consider what quantity of gas these half a hundred thousand street-lamps are wont to consume annually while keeping our thoroughfares duly illumined all the summer and winter nights through.

This, again, is a point readily determined; for, by the "statement of gas made, sold, &c.," given with each of the London gas companies' accounts, we find that the quantity of "common" as well as "cannel" gas sold for public lights, by the nine metropolitan gasworks collectively, amounted to rather more than one million of thousands of cubic feet (1,074,595,000 cubic feet precisely). Of this the "Imperial," having the greatest number of public lamps to light, supplied over one-third, or more than 347½ million cubic feet; the "Chartered" not quite a fourth, or upwards of 237 million feet; and the remaining seven companies collectively not quite half, or within a fraction of 490 million cubic feet.*

Now, according to Mr. Peckstone, we repeat, the average yield of gas from a ton of Newcastle coal is 10,000 cubic feet; hence, to produce the thousand millions of cubic feet of gas which were consumed in the course of the year 1874 by the 54,000 public lamps in London, no less than a hundred thousand tons of coal would have been required.†

But, if the public lamps consume collectively 1,074½ millions of cubic feet in the course of the year, what amount of gas does it take to light the streets of London every night, on the average, throughout the twelvemonth? This is readily arrived at; for $\frac{1,074,595,000}{365} = 2,971,493$,—say three million cubic feet. Now this amount of gas represents, at the normal rate of 10,000 cubic feet per ton of coal, an average consumption of 300 tons of Newcastle carbonised nightly, in order to maintain the streets of London in such a state of luminosity as will render life and property secure from the aggressions of the burglar and the footpad. Now 300 tons of coal at the average cost of 25*s.* per ton represent a gross outlay for the fuel of 375*l.*; so that for less than 400*l.* a night sufficient coal can be provided to allow four million people to pace the streets in safety and to sleep fearlessly in their beds—which is less than the tenth of a farthing per head.

After this the next step in the due order of logical exposition is to settle, first, what is the average consumption of each of these public gaslights in the course of each night throughout the year; and, secondly, what is the gross cost of them to the metropolitan ratepayers. In the mid-winter the street-lamps are lighted at four in the evening, and not extinguished until eight the next morning, so that they are kept burning for sixteen hours; whilst in midsummer the average term of the gaslight is from eight p.m. to four a.m., or only eight hours' duration. Hence, it follows that, lumping the long nights with the short, the public lamps may be said to be kept alight for twelve hours nightly throughout the year. Now, fifty-four thousand lamps burning a thousand million cubic feet of gas in the course of the twelvemonth, give an average consumption of 18,500 cubic feet of gas to each public lamp per annum. Then, as 365 nights × 12 hours, or 4,380, would represent the number of hours they are kept burning through the year, it follows that $\frac{18,500}{4,380} = 4{\cdot}2$ cubic feet would indicate the average hourly, and 50·4 cubic feet the average nightly, consumption of gas by each of the lamps in question. And that this is not very far from the truth is proved by the fact that 5 cubic feet of gas per hour is taken as the average consumption of the standard Parliamentary argand burner. Now, 5 cubic feet of gas is, as we have said, the quantity yielded by one pound of Newcastle coal; hence each of our street-lamps may be said to carbonise rather more than 15 oz., or just upon one pound of coal hourly; and this is very nearly at the rate of two tons in the course of the year.

It now only remains for us to set forth what is the gross cost of these 54,000 street lamps, burning collectively just upon one thousand million cubic feet of gas per annum, as well as to show what is the price paid for the gas "per thousand," and then we shall put the extinguisher on our "Light in London." Now, under the head of "Revenue Account," given in the printed Returns of the Metropolitan Gas Companies, we have a statement of the sums paid to each of the different companies for the public lighting of London; and according to this it appears that in the year 1874 the Chartered Company received very nearly 74,000*l.* for the gas as well as the lighting and repairing of the public lamps; the Imperial not quite 94,500*l.*; and the other seven companies altogether a fraction more than 100,000*l.* altogether;* so that the gross cost for the gas, as well as the lighting and repairing of the 54,000 street-lamps, amounted in round numbers to 268,000*l.* Now, $\frac{268,000l.}{54,000}$ gives 4*l.* 19*s.* 3*d.* for the yearly cost of each public lamp. But this amount includes not only the expense of the gas, but that also of lighting and repairing the lamps. Consequently, the latter item must be deducted from the gross sum paid for the public lights in order to arrive at the amount charged for the supply of the gas. By the same "Revenue Account," then, we find that the cost to the gas companies of lighting and repairing the street-lamps amounted in the aggregate to rather more than 42,500; the "Chartered" having to pay for this 13,348*l.* in the course of the year; the "Imperial," 13,353*l.*; and the remaining companies just upon 16,000*l.*† Now dividing this 42,500*l.* among the 54,000 street-lights we have a quotient of just upon 15*s.* 9*d.* for the yearly expense of lighting, cleaning, and repairing each of the public lamps throughout London. Then, again, deducting the same amount (42,500*l.*) from the gross sum of 268,000*l.* odd, paid for the contracts by the several parishes, we have 268,000*l.* – 42,500*l.* = 225,500*l.* for the nett sum paid for the gas; and 225,500*l.*, or 4,510,000*s.*, divided by 983,600 (the number of thousands of cubic feet consumed by the public lights in the course of the year 1874) gives 4*s.* 7*d.* per thousand cubic feet for the average cost of the gas supplied to the public lights.

And this appears to be about the average price, being very nearly the mean of the amounts returned by the companies as the cost of their gas; for whilst the "Chartered" charges 5*s.* and 3*s.* 9*d.* per thousand for common gas by meter, the "Imperial" asks only 4*s.* 8*d.* and 3*s.* 9*d.*, and the "South Metropolitan" requires but 3*s.* The "Commercial," on the other hand, demands 4*s.*, whereas the "Independent" wants only 3*s.* 6*d.*, while not less than 3*s.* 9*d.* and 4*s.* 6*d.* will satisfy the "London." Moreover, the "Surrey Consumers'" *will* have 4*s.* 6*d.*, though the "Ratcliff" is willing to accept 3*s.* 9*d.*

Such, then, is a just gleam of some of the glories of "light in London." And here our talk ends; but before laying down the pen, let us briefly recapitulate the conclusions at which we have arrived in the course of our investigations:—

The total amount of capital invested in the eight metropolitan gas companies is ten millions sterling.

The gross expenditure of the gas companies in the year 1874 amounted to 620,000*l.*, of which 75 per cent., or 470,000*l.*, was paid for new buildings and machinery; 20 per cent., or 122,000*l.*, for new and additional mains; and the remaining 5 per cent., or 27,000*l.* for new and additional meters, fresh land, and law charges. The collective gas-works of London would appear to have cost for "buildings, machinery, and plant," as well as "land," between six and seven millions sterling. (Mr. Barlow estimated the amount of capital sunk in the several "works" at between only three and four millions.)

In mid-winter some of the largest gas-works have to send out as much as 17 million cubic feet of gas in the course of the night.

Some of the gasometers are now 140 ft. diameter and 70 ft. high, or as large as a good-sized amphitheatre, and have a capacity of upwards of a million cubic feet.

The gross quantity of gas supplied to the entire metropolis now is as much as 14,000 millions of cubic of feet per annum, which is at the rate of 38½ millions of cubic feet per diem.

To produce this enormous volume of gas about 1½ million tons of coal require to be carbonised, or "coked," in the course of the year.

Each ton of Newcastle coal produces on an average 10,000 cubic feet of gas, and 1 cwt. of coal about 2½ bushels of coke.

The cost of the coal alone for lighting London with gas amounts to 1¾ million of money per annum.

The value of the "residual products," such as the coke, the breeze, the tar, and the ammonia liquor, arising from the destructive distillation of the 1½ million tons of coal, is as much as 700,000*l.* per annum.

The "gas rental" of the entire metropolis is just upon three millions of pounds sterling, including rather more than a quarter of a million paid for the public lamps; so that not quite 2¾ millions are paid for the gas supplied "per meter."

The total length of the streets of "London according to Act of Parliament," is 2,500 miles.

The total length of the gas-mains throughout London is more probably 5,000 than 10,000 miles, as is generally supposed.

The total length of the Paris mains is only 960 miles, and those of Dublin 3,000.

The average expense of laying down these mains is about 770*l.* per mile, and the gross cost of the entire mains of London, therefore, not less than 3½ millions sterling.

The cost of the repairs and renewals of the street-mains comes to 63,000*l.* odd in the course of the year, which is at the rate of just upon 25*l.* per mile.

The number of street-lamps throughout London is 54,000 odd (instead of 360,000! as assumed by Mr. Barlow), or 1 lamp to about every 80 yards of roadway.

The gross cost of erecting the 54,000 street-lamps could not have been less than 135,000*l.*

The street-lamps consume just upon one thousand million cubic feet of gas per annum.

The gross cost of the gas consumed by the street-lamps is upwards of a quarter of a million pounds yearly.

The entire street-lamps of London consume as nearly as possible three millions of cubic feet of gas nightly, which represents an average of 300 tons of Newcastle coal carbonised per diem;

* Of these 490 million cubic feet, the Phœnix supplied not quite 121 millions; the London, 92½ millions; the Commercial, very nearly 85 millions; the South Metropolitan, within a fraction of 75½ millions; the Surrey Consumers', 67½ millions; the Independent, 29½ millions; and the Ratcliff but little more than 19 millions.

† The Cannel gas sold for the public lamps, of which only 11½ million cubic feet were used (or not quite 9 per cent. of the entire quantity), has, for the sake of simplification, been excluded from the above calculation. The yield of gas, however, from a ton of "Parrot" or "Cannel" coal, is from 12½ to 20 per cent. more than from a ton of Newcastle.

* Of the 100,000*l.* received by the remaining seven metropolitan companies, the Phœnix received 25,000*l.* odd; the London nearly 22,000*l.*; the Commercial not quite 16,000*l.*; the Surrey Consumers', 13,500*l.* within a fraction; the Independent, rather more than 6,250*l.*; and the Ratcliff, not quite 3,800*l.*

† The 16,000*l.* was thus divided among the other companies:—For the lighting and repairing of the public lamps, the Phœnix had to disburse very nearly 3,800*l.*; the London, a little over 3,000*l.*; the South Metropolitan, rather *more* than 2,800*l.*, and the Commercial rather *less*; the Surrey Consumers', 1,500*l.* odd; the Independent, just upon 1,300*l.*; and the Ratcliff, 600*l.* and upwards.

and though the coal alone required to light the streets of London every night costs 375*l.*, the expense of the public lamps is less than the tenth of a farthing per night to *each* of the four million inhabitants.

The cost of lighting, cleaning, and repairing the whole of the public lamps amounts to 42,500*l.* a year.

The average contract price per lamp is 4*l.* 19*s.* 3*d.* per annum; of which sum about 15*s.* 3*d.* is the average cost of lighting, cleaning, and repairing, and the remaining 4*l.* 4*s.* the yearly expense of the gas for *each* of the lamps.

A NOTE ON THE PRESIDENTIAL ADDRESS AT THE INSTITUTE.

In the course of the opening address at the first meeting of the Institute this session, Sir Gilbert Scott made a "point," which was evidently appreciated by a certain proportion at least of his audience, in the remark that the institution which he at present presides over has not of late years acted up to its professed ends in furthering the art of architecture; at all events, that it has been open to the charge of being more concerned "with the profession of architecture as it is than with the art of architecture as it might be"—of looking too much at the present and too little to the future.

The promotion of the knowledge of the profession as it is, is certainly one object of such a society as the Institute; in this way especially, that by its means members of the profession engaged chiefly in one particular branch of practice (and most architects have their own special line of subject, more or less) may hear from others what are the latest experiences and ideas in buildings of other descriptions. There is scarcely enough of this kind of interchange of ideas; and the President probably thought of this when he incidentally expressed a hope that they would in future "know a little more of the inner life" of some of their leading members; which expression we presume referred to the idea, often and often expressed by well-wishers of the Institute, that members of the profession engaged on buildings of any interest, large or small, should bring their drawings and details before the meetings for general inspection and for the dissemination of ideas, and the interchange of friendly criticism. There is very little of this element at the meetings generally; but nothing could tend more to give to them that practical value which it is so desirable they should possess, than to render them opportunities for professional "brethren" (if we may hope the term is still applicable amid the unfortunate party spirit and cliqueism of which we hear far too much) to study each other's work, and to gain hints from each other for mutual instruction, and for general advancement in the practice of the building art. If there are those, perhaps, who would be narrow-minded enough to draw back from any such practice from motives of (imaginary) self-interest, we should hope this spirit, the real prevalence of which would render the existence of the Institute of Architects little better than a mockery, can only be very partially operative, and that it is mere want of thought which leads members of the profession to ignore or forget one of the most certain ways of rendering the Institute of practical value to those who regularly attend its meetings.

This, however, is a question which concerns the position of the Institute chiefly as it is viewed by members of the architectural profession, a consideration not unimportant as bearing upon its future prosperity, either; for we have heard refusals to join its ranks based on the opinion that there was no practical good to be gained from it; an opinion which it is at least desirable that those who do actively take part in its proceedings should give as little ground for as possible. But, reverting to the presidential observation before quoted, that the Institute seems rather concerned with what is present and "professional" than with what is future and "architectural," that is an important consideration in reference to the standing of the society in the estimation of the outside world. We know that the theory has been put forward by professional members of the Institute that its real office is to afford an opportunity for protecting the professional interests of architects; a theory which at once reduces it, in fact, to the level of a "Trade Union,"—a sort of institution not necessarily reprehensible, of course, but which is, to say the least, not the professed object for which the *imprimatur* of a royal charter was given to the Institute, nor one which can have any possible interest for the public. But without contemplating the *bathos* implied by the acceptance of such a theory, and which certainly is not practically accepted by those who are foremost in the present management of the Institute, there seems to be reason for the complaint that its papers and proceedings are too little occupied with what would tend to an extension of the field of architectural possibilities, practical and artistic, in the future. Of the list of papers for the Session, which we commented upon a fortnight since, one only, that by Mr. Sharpe on "The Application of Terra-cotta to Modern Church Building," seems to tend towards enlarging the field of future practice, unless Mr. Payne, in his paper on "Concrete," means to sketch the future of that material under the hand of the architect. Now, this is a point for consideration not only for those who are members of the Institute and of the profession of architecture, but one which may, and does to some extent, enter into the consideration of outsiders in estimating the value of the Institute of British Architects to the country at large. New problems in the formation of habitations for a population increasing in numbers, and at the same time advancing in all that is implied in the word "civilisation," are constantly presenting themselves, either definitely or vaguely. It may not be unnatural for the public of this country to look to the central and representative body of architects to attack these problems by anticipation, to put into definite shape those which are yet vague, to suggest the best methods of meeting those which have become definite and palpable to every one, in such a spirit as to fulfil the conditions demanded of architecture, the combination of the useful with the beautiful, the necessary with the appropriate.

There was another point in regard to the possible work of the Institute touched upon by Sir Gilbert Scott, which, though in one sense it refers to the past rather than the future of architecture, yet has a direct connexion with his observations on the too exclusively "professional" tendency of the Institute, as well as with our own remark on the need of a closer connexion of its proceedings with public, or rather national, interests. We refer to his observations upon the past architectural monuments of the country, of all dates and styles (and considering his professed Gothic principles, the President was sufficiently impartial on this head), and the important work which remained to be done, and might be done, in drawing and illustrating these monuments before they succumbed to the hand of Time (or of the restorer, perhaps we may be allowed to add). This is really a subject which ought not to be allowed to fall to the ground, whether we consider it from the point of view of an archæologist or of that of a member of the Institute. If we look at the splendid work which has been done and is being done by French architects in measuring and illustrating old remains by the most elaborate and perfect drawings possible, in connexion with the "Commission des Monuments Historiques," we must feel that this country is miserably behindhand in making reliable drawings and records of buildings which by one or other of the two destructive agents named above must before long perish. It may be replied that the "Commission" in France is a Government project, undertaken on public grounds, and paid for out of the public purse; and that if our Government once made a similar step, it would find no lack of architectural and drawing talent at its disposal. That is probably true; but Governments differ, and it is not in the nature and habit of English Governments to initiate undertakings of that kind. As French critics have observed several times, the Government is the first mover in nearly every work of any public interest in France; whereas, in England, it is nearly the last. In England, Government waits for companies or for individuals to start an undertaking, and then countenances and subsidises it or not, as the case may appear. This may be good or bad, right or wrong; but it is "the custom of the country," and there seems no immediate probability of its being altered; and that being the case, surely the body which is bound by all general considerations to make a movement for the adequate illustration of the architectural remains of the country is the one which formally represents the art of architecture. It is neither unsuitable nor paradoxical, that the president of such a body should call upon its members to take active part in endeavouring to secure as complete a record as possible of the architectural beauties which are among our national and historic possessions. When we say it is not paradoxical, we mean that such a movement does not (as the President, indeed, observed) necessarily mean the incurring of all the expense connected with it by those who labour in the cause. Both Government and private individuals in this country have been found not unwilling to find funds for assisting any enterprise that recommends itself to the common sense of society and to public feeling; and even if each member of the Institute undertook to illustrate one building, a very important step would be made at no more expenditure of time and cost than our leading architects often do incur for mere indulgence of their own enthusiasm as sketchers and students of ancient architecture in other countries. If a definite step of this kind were made by the members of the Institute, they would not only, in all probability, receive substantial support from Government, if the claim were properly laid before it, for carrying the idea further, but they would also, in giving their united talent and some of their time to a work of really national interest, gain more of that sympathy and recognition on the part of the educated public of the country, which is one of the things most to be desired, and at present most needed, in the interests both of architecture and of the society which constitutes its recognised representative.

THE LESSONS OF THE FLOODS.

Some weeks ago we alluded to the disastrous floods which had occurred in the South of France and in other parts of Europe. We have now ourselves been visited with a second series of floods hardly less destructive in their aggregate effects than the more isolated cases to which we then alluded as having happened on the Continent.

Villages swamped, streets rendered impassable, bridges carried away, railway embankments washed down, houses robbed of a portion of their furniture, thousands of acres of land submerged, hayricks and trees floated away on the swollen tide, horses and cattle drowned,—such is a catalogue of the destruction wrought throughout these islands; and, worse than all, men, women, and children suddenly plunged into a watery grave. No part of the kingdom has been exempt from such disasters. In this case, it is no question of the sudden melting of snows on mountain sides; it has been merely a steady downpour of rain, such as we are periodically liable to, and which, though perhaps in a less exaggerated form, we are accustomed to witness at certain seasons, bringing with it the necessary consequence of swollen rivers and banks overflowed.

Every autumn, at least, and almost every spring, we hear of floods very general in extent, and only differing from those which we have just been experiencing in the fact of their being less severe and disastrous in their effects. The plague of water which has just burst over the country is no new disease,—it is an annually-recurring one, though it appears pretty certain that each year gives increased force to the evil.

It cannot be denied that fifty years ago it was far less common for whole miles of country to be suddenly inundated, for the peaceful English streams to be turned into raging torrents, than it is nowadays; and, on the other hand, it was much more unusual for the opposite complaints of drought during the summer months, of parched fields and burnt-up crops, to be registered than is now the case. And these two facts are closely, inseparably, connected. The same agencies which are at work to cause the one are at work to produce the other effect.

Setting aside the, so to speak, exaggerated aspect of the late floods, in their ruinous effect on buildings and other property, and in the loss of life which they have proved the cause of, agriculture is the main sufferer in the flooding of the land. Unlike the Nile, whose annual rising is a cause of general rejoicing throughout its course, by reason of the rich deposit of fertile alluvial soil which it distributes on its course, and of the facilities which its overflow gives for supplying the irrigating canals which are prepared to receive and store its superabundant waters, our rivers are rather agents of evil omen than of good import when they rise above the level of the channel which Nature has marked out for them and which man has helped to define. Too many of our streams are polluted with all manner of

abominations, and the deposits which the waters bring down, instead of fertilising, rather destroy the producing power of the earth over which they pass. It is no exaggeration to say that an overflow in the case of many of our streams, particularly in South Wales, in Lancashire and Yorkshire, and in Devon and Cornwall, is destructive to all living things, vegetable or animal, over which it extends. But in the case of rivers whose waters are pure, or, at least, in this respect, harmless, the submergence of the land is disastrous, especially when it is of long duration, in the effect it has on the crops, and in the stoppage of all farming operations.

Equally does agriculture suffer in the reverse of the picture,—the yearly summer droughts which now almost invariably occur. The land is parched up, the crops are burnt before they have time to swell and grow, and either this evil must be submitted to, or measures for artificial irrigation resorted to at great expense, under the pressure of the emergency. Indeed, there is little to choose between a long summer drought and a protracted period of autumn and winter floods.

We have said that these two subjects are closely allied; so closely, indeed, are they connected, that agriculture, which is the greatest sufferer from these two opposite conditions, is to a very great extent the author of both. It cannot, indeed, be said that agriculture is the cause of a heavy rainfall, or of the absence of rain; but the system of high farming, which the present generation has seen introduced, is the principal cause of the serious effects which follow a period of heavy storms, or of lengthened dry weather. The drainage of farm lands is now so complete, that a fall of rain which, fifty years ago, would have taken days to find its way through the soil to the river, is now carried off at once, and suddenly swells the volume of the stream. When several successive storms occur, the water falls rapidly into the river, which is thereby heightened to an extent beyond its capabilities, and a flood is the result, rotting the crops, and destroying its producing power. Even to so small a matter as this, the worms are drowned, and the soil loses the benefit of their services in perforating the earth, and fertilising it with their "worm balls." On the other hand, the drains so rapidly carry off the water, that in summer the land seldom or never (except when actually submerged) becomes thoroughly soaked, and a few days' hot sun will completely parch its surface, and then the summer effect of severe drought is produced.

If a system of storing water were adopted, both these evils would be reduced to a minimum. The superabundant rainfall of the autumn and winter would be stored in suitable localities, instead of rushing headlong into the sea, while it would be available for use in the summer months, instead of being beyond our reach. If high farming demands deep and complete drainage, the results of the system should be taken into account, and its evils, as far as possible, averted. It is hardly policy to say that a certain portion of the country shall have the benefits of good drainage (not always a benefit, in consequence of the evil result of serious drought), and that another portion shall, consequently, be periodically submerged, and its value thereby indefinitely depreciated.

But it is not merely the farmer that suffers, or who can read a lesson, from the floods. Householders and owners of property generally lose much in a time of such floods as we have just been experiencing. For one building actually washed away in the flood, hundreds are seriously injured by the water which enters their lower floors, if they are situated within its reach. A remedy for this evil lies in the prohibition of any building being erected below the probable flood level of a river, or at least in the enforcement of some means which will render its foundations waterproof, and in the prohibition of any dwelling-rooms below the flood level. The system of underground rooms is in itself open to great objections; but it becomes a positive danger when there is the likelihood of the floors being at any time below the level of an adjoining stream. Localities at all subject to the overflow of streams should be religiously guarded against as building ground, or at least their level shou'd be so raised as to prevent all danger of an inundation.

The Tower and Spire of St. Antholin's Church, City.—The destruction of this handsome steeple, Wren's work, is imminent. Can nothing be done to save it?

THE LATE MR. RICHARD TRESS, ARCHITECT.

Mr. Tress, whose death took place at his residence in the Albert-road, Regent's Park, on the 29th ult., at the age of 65, had been prevented by failing health, for nearly two years previously to his decease, from engaging in the duties of his profession. It is believed he was another instance of the effects of that excessive application to business which seems to have now become so common in successful professional men.

Mr. Tress commenced practice as an architect and surveyor in the City of London some forty years since, in George-street, Mansion House, and subsequently continued it in Little St. Thomas Apostle, after which his offices were at 27, Queen-street. For many years Mr. Francis Chambers was in partnership with him, and some time after its termination Mr. Tress was joined by Mr. Charles Innes, a former pupil of his, and who still carries on the practice.

Mr. Tress was long a member of the Court of Common Council, to the duties of which he gave much time, and took a very great interest in many of the improvements which have done so much within the last thirty years to make the City what it now is. He was also connected with several of the City charities, and took great interest in their welfare. He was the oldest trustee to the Finsbury Savings Bank, or "father" of that institution."

Mr. Tress's practice was a very varied one, and comprised almost every kind of business belonging to his profession. He was, in addition to his reputation as an architect, known to be a skilful negotiator, valuer, and well versed in the subject of ancient lights, compensation cases, and dilapidations. He was surveyor to several of the City parishes, and for many years was surveyor to the Worshipful Company of Cutlers, which latter appointment he resigned upon his election to the Court. He became Master of the Company in 1873. He was a candidate for the office of City architect previously to Mr. Horace Jones's appointment, but a standing order which precluded any member or late member of the Corporation from being appointed to any post in their charge disqualified him. He was, we believe, over twenty years a fellow of the Royal Institute of British Architects, and he was also a member of the Society of Arts.

Mr. Tress was architect to the City of London Union Workhouse in the Bow-road, and to the Saffron Walden Corn Exchange, and in conjunction with his partners designed and superintended the erection of the Central London District Schools at Hanwell, Messrs. Copestake's large warehouses in Bow Churchyard and Bread-street, the premises of Messrs. Jenks and other large buildings on the Holborn Viaduct, and other warehouses and buildings in the City and its vicinity; he also erected a large mansion at Huddersfield, and several residences in different parts of England.

His pretty little cottage at Taplow (which he lately sold on account of his ill-health), surrounded by ornamental grounds and waters, and to which he gave much care, was in the summer time the pleasant resort of many friends, by whom he was greatly respected and esteemed. He was buried on the 5th inst. at Highgate.

BRONZE DOORS.

The real bronze-metal door just completed by Messrs. Bunnett & Co. is the last of four pairs, and is for the Hypothecary Bank of Buenos Ayres, illustrated some time ago in our pages. They are all double-leafed, the upper portion being fixed. The size of the largest is 18 ft. 8 in. by 8 ft. 7 in., and the weight of each five tons, the whole of which has been executed by Messrs. Bunnett's workmen.

The design is rich and massive, the thickness of the meeting stile being 10¼ in. The method adopted was to cast each leaf in one plate, only $\frac{1}{12}$ in. thick, the ornamental panels being afterwards secured thereto in such a manner that neither screw nor rivet head can be seen from the front, and having the appearance of one casting, enabling the various mouldings to be undercut, and giving to each a clear and sharp outline. The casting of these bronze-metal plates, each about 14 ft. 6 in. long, 4 ft. 6 in. wide, and $\frac{1}{12}$ in. thick, was accomplished in the new foundry each time successfully,—an operation, considering the large size and extreme thinness, necessitating great care and ability.

The doors are hung to the frames by six pairs of hinges to each leaf, with steel washers and pins; and, to prevent any deflection, a gun-metal roller, with steel axle, is fixed under the bottom of the meeting stile, working on a fixed quadrant, and, notwithstanding the immense weight, they can be opened and shut easily by a boy. There are six bolts to each door, which are secured thereto by means of a combination lock from the inside only; the end of each bolt is fitted internally with a steel roller, so that any attempt to cut the bolt would be defeated.

The whole of the enrichment is highly chased, relieved, and burnished, giving a rich antique appearance, and such as, we believe, has not hitherto been accomplished in this country or elsewhere.

It is scarcely necessary for us to say that the cost of patterns, models, and enrichment was very considerable, the whole being made from brass patterns.

EXCAVATIONS IN OLYMPIA.

Some time ago the German Government requested that of Greece for permission to cause excavations to be made in the district of Olympia, which was granted, and the Germans soon set to work energetically. No difficulties were encountered in acquiring the ground necessary for the excavations, and great assistance has been rendered by the Greek Commissary, M. Demetriades, who has charge of the antiquities round Thebes, a gentleman who has studied in Germany, and is full of zeal for the cause. Altogether, the advices received respecting the excavations are very favourable. All necessary preliminaries being made, ground was broken on the 4th of October. The number of workmen was at first small, the peasants of the neighbouring villages being just then busily engaged in the vintage and with sowing. But at the present time fifty workmen are employed, and the work is in full progress. It is intended to dig two deep trenches from the site of the temple to Alpheios, one passing the east the other the west front of the temple. They are to serve for the removal of the *débris*, for draining off the water, and at the same time for laying bare the most important spaces near the sanctuary. At a depth of only 5 ft., pieces of entablature of the east front have appeared. At the same time, two smaller excavations are in progress, one along the margin of the Alpheios (where it is intended to deposit the *débris*), to make sure that no old foundations are in existence; and the second on the bank of the Kladeos, to follow up the traces of wall here discovered, and to determine the limits of the temple district on the eastern side.

A small German colony has been formed at Druva, overlooking the busy scene of the excavations, the Germans being well received by the authorities as well as by the population. Some good has already been effected by the works, a carriage-road having been constructed to Pyrgos, a want long felt, which will serve, in the first place, the purposes of the excavations, but will also be of great advantage to the fertile tract along the Alpheios. The work has thus far been commenced under favourable auspices; but it should be borne in mind that, on account of the great height of the overlying strata of earth in some places, important finds must not be expected for the next few months.

COMPETITIONS.

The New Lunatic Asylum for Nottingham.—The Corporation of Nottingham some time ago advertised for designs for the proposed new lunatic asylum for the borough. Though the competition was an open one, only seven took part in it, and the result became known on the 3rd inst., when the committee appointed by the Corporation to consider the plans gave their fiat. The first premium of 100*l.* for the best design was awarded to Mr. George Hine, jun., of Nottingham, whilst Messrs. Evans & Jolly, of Nottingham, came second for a premium of 50*l.* The new asylum will be built on the Mapperly Plains, and will in all probability cost in its completed state about 30,000*l.* About 30 acres of land have been taken for the purpose, whilst 20 more acres have been reserved in the event of the Corporation wishing to extend the asylum.

Proposed New Municipal Buildings for Nottingham.—The Nottingham Town Council has decided to advertise for plans and designs of proposed new Town-hall, Free Library, Sessions-court, Police-court, Judges' rooms, &c. The site selected is at the corner of Broad-street and St. John's-street.

TRADE MARKS.

The subject of trade-marks has vexed considerable sections of the commercial community for years. Everybody is agreed that the integrity of a trade-mark is of as much importance to manufacturers as the preservation of copyright is to authors and publishers, yet no sooner does any one article attain a reputation than the trade-mark is imitated, and the false and inferior production is circulated through obscure channels at home, and boldly exposed in foreign markets. The entire law of the subject is of modern origin, for it is only in quite recent times that these marks have come to be very valuable, and frequently pirated. But experience hitherto has shown that the law does not provide every protection against infringement. We have only to look at the numerous cases that have come before the Courts from time to time. No uniform principle pervades the decisions arrived at by the judges, who have not adhered to any clear conception of the nature of trade-marks. Lord Westbury, it is true, authoritatively laid down the principle that a trade-mark is a form of property; that anybody might be restrained from using it; and that the test whether it had been violated was, Had anybody been deceived? This principle, excellent so far as it goes, does not carry us very far, since no two judges may be at one as to what is a trade-mark. Each exercises his common sense, and hence the very strange lines of liberty drawn in this department of the law. Then the process of proving an infringement is both cumbrous and costly, and many an original manufacturer has been well-nigh ruined in defending his rights. Parliament has at length listened to the claims of manufacturers, and, as our readers are aware, one of the last Acts passed in the recent session was to establish a Register of Trade-marks, under the superintendence of the Commissioners of Patents. There can be no doubt that this measure, which will come into force on the 1st July, 1876, will afford a real remedy for the present anomalous state of things, inasmuch as it will allow an appeal to official records in the case of trade-marks being pirated. The new arrangement will exclude all trumped-up claims, the method of proof will discourage litigation, and manufacturers will possess a security they do not now possess. There are eleven provisions in the Act, which may be briefly summarised as follows:—From and after the 1st of July next no person shall be entitled to institute proceedings for infringement of any trade-mark unless the same has been registered. It must be registered as belonging to a particular class of goods, and when registered is to be assigned and transmitted only in connexion with the goodwill of the business concerned in such particular goods or classes of goods, and be determinable with such goodwill. The registration of a trade-mark is to be deemed to be equivalent to the public use of such mark, and the registration of a person as first proprietor of a mark will be *primâ facie* evidence of his right to the exclusive use thereof; and after the expiration of five years from the date of registration, be exclusive evidence of his right thereto. A certificate of the register is to be evidence, but any person aggrieved may apply for an order of the Court that the register be rectified. A trade-mark may consist of the name of an individual or firm, printed, impressed, or woven in some particular and distinctive manner, or a written signature or copy of an individual or firm; or a distinctive device, mark, heading, label, or ticket; and manufacturers are allowed to add any special letters, words, or figures used as a trade-mark before the passing of the Act.

In America the law on the subject differs in several respects from our own. The only American legislation upon these marks, Dr. Hazeltine says, is contained in the Patent Act of July 8th, 1870, sections 77 to 84 inclusive, prior to which date this subject was regulated by common law, and there was no registration. Though the mode of obtaining redress for infringement is prescribed by the Act, the common law remedies are preserved, and may be enforced, even in the absence of registration. The applicant for a registration must, according to law, be a person, firm, or corporation, domiciled in the United States, or in a foreign country where similar privileges are granted, by treaty or convention, to American citizens. But the office has decided that Englishmen may register trade-marks, on the supposition that English laws afford similar privileges to foreigners, in the absence of treaty or convention, which supposition is erroneous, and, strange to say, no treaty or convention exists between the two countries on this subject. The application for a protection is made by filing in the Patent Office the applicant's name, residence, and place of business, a particular description of the goods, and the class of merchandise to which the trade-mark is to be applied, a description of the mark itself, with *facsimiles*, the duration of prior use, declaration under oath as to ownership, and correctness of the description and illustrations filed. When the applicant is a firm or corporation, some member or officer must make the declaration. The duration of the registration is for thirty years, subject to a renewal for a like term if application is made six months before the expiration of the original term. No provision is made for extension beyond sixty years, when the proprietors must resort to their common-law rights and remedies. The registered trade-mark used on articles manufactured abroad is not effective unless protected by registration at the place of production. The official fee for the original or renewal term is twenty-five dollars, or about five pounds. The law provides for a remedy in the courts of law and equity for infringement, and the marks may be transferred the same as copyrights.

In France English trade-marks are protected by virtue of the Treaty of Commerce. The French law, which took effect from the 27th of December, 1857, requires that the deposit of trade-marks shall be renewed at the end of fifteen years. For example, all those who deposited a mark before the above date, were obliged to renew it before the 27th of December, 1872, and the protection from the deposit will last for fifteen years, or until the 27th of December, 1887, when it will again have to be renewed. It may be remarked that the French law on this subject is exceedingly stringent. Here is a recent case in point. A prosecution for the forgery of a trade-mark took place at Bordeaux. A merchant of Paris, named Robin, learned a short time back that a lithographer of the first-named town had just printed 5,000 labels similar to his own. He at once instituted proceedings, and discovered that the order had been given by a merchant of Bordeaux, who had received the commission from a firm at Valparaiso, to which the labels had been already sent. A telegraphic message was despatched to the authorities in that port, and the parcel was seized on its arrival. As the parties who had instigated the forgery were beyond the reach of French justice, M. Robin attacked the merchant and the lithographer, who were condemned each to three months' imprisonment, and jointly to 3,000 francs fine, and the insertion of the judgment in a certain number of public journals. Similar protection is granted to English manufacturers in Germany under the law passed by the German Parliament on the 14th of November, 1874, and we may direct the attention of all persons interested to Article IX. of that law:—"With respect to trade-marks which are protected by the law of the State, likewise with respect to such marks as up to the commencement of the year 1875 have been accepted universally in trade as the known mark of a certain tradesman, no one, except the proprietors protected by law, or universally acknowledged in trade, can acquire a right to such by an application for registration, on condition that the proprietors shall have made the application before the 1st of October, 1875." So that any English firm which may have neglected to make application (accompanied by a fac-simile of the work), previously to that date, will have reason to regret the omission, since any one can use in Germany any English trade-mark which he has registered. The present or any subsequent registration in Germany holds good for only ten years, subject to any alteration before the end of that period of or in the firm, of which due notice has been given to the Court, and after the expiration of the said period the application has to be renewed, though no charge is made for registration.

The entire subject of merchants' and tradesmen's marks is curious and interesting. Some twenty years ago Mr. W. C. Ewing published a valuable work, entitled "Notices of the Merhants' Marks in the City of Norwich," which contains eleven engraved plates, illustrating 308 different marks, with an account of their use and origin. And as early as 1825 Mr. Woodward wrote a paper on this subject, which was read to the Society of Antiquaries, accompanied by very accurate drawings. These marks appear to have been in general use for about three centuries, namely, from 1300 to 1600. If merchants gave money towards the building or restoration of churches, their marks, as our readers know, frequently a very ingenious amalgamation of threaded forms and tracery, were placed in the windows in honour of their liberality. This practice is thus noticed in "Piers Plowman's Creed":—

> "Wyde wyndowes y-wrought,
> Y-wryten ful thikke,
> Shynen with shapen sheldes,
> To shewen aboute,
> With merkes of merchauntes
> Y-medeled betwene.
> Mo than twentie and two
> Twyse ynoumbbred."

Coat armour in early times not being allowed to men in trade, many merchant families, in spite of Garter, Clarencieux, and Norroy, adopted their trade-marks in a shield (see an example in Boyne's "Tokens," plate iii., No. 5), and these were continued by their descendants as an hereditary distinction. The arms of the borough of Southwark are only a trade-mark. In the seventeenth century these signs were falling into disuse, and were not confined to wealthy merchants and shipowners, but adopted also by shopkeepers. They are partially used by shipbrokers at the present day, and being purely arbitrary, cannot well be systematically classified.

A VISIT TO THE BRIGHTON RAILWAY WORKS.

The Brightonians have great cause to respect the railway men who first decided to establish the locomotive works in the town, for it has brought an inestimable amount of life and activity to the place, and benefits it immensely. Unlike the people of Nottingham, who are said to have opposed the establishment of the Midland works in their town, and which led the directors to place them in Derby, the Brighton people displayed an amount of foresight which redounds to their credit, and for which future generations will have cause to bless them.

Thanks to our letter of introduction, we obtained in Mr. Jeffrey, the general foreman, the most courteous and intelligent guide that could possibly be secured.

We commenced our round of inspection by visiting the carriage department, where we saw "bodies" and "underframes" being constructed in all their various stages, and the roofs of old carriages being raised about 10 in., so as to allow of an increased height or head-room. In the construction of their carriages the Brighton Company use teak-wood for the underframes, with the exception of the sides or sole-plates, which are pitch-pine, with a 10-in. by ¼-in. wrought-iron plate or flitch all along the outsides; and to keep all bolts uniform, two lines are marked from end to end of the side-plates, and bolt-holes are drilled so that their centres are on one or the other of these lines, showing with what nicety and exactness all the minor details are carried out. We could here see how the buffing arrangement is made, viz., by two laminated springs, with eighteen plates each, extending nearly the whole width of the underframe, and resting upon longitudinal bearers framed into cross transoms, the ends of the buffing springs being fitted into shoes connected to ends of buffer rods. The bodies of all carriages are of mahogany, and some of the side panels are of exquisite beauty, showing that great care is exercised in selecting the logs of timber, as also in the cutting of it up, so as to bring out the grain or flower in all its beauty. The doors are fitted with "Wheatley's" spring-lock, which enables the passengers to close the door without turning the handle. It reminded us of the "Campling" lock, as tried on the Great Northern and Metropolitan Railways. The roofs of the carriages we saw were made double, the inner lining being ¼-in. mahogany. The shop in which the carriage-work is carried on is well provided with light, two-thirds of the roof-covering being glass, and it has both a cleanly and airy aspect.

All springs are made here, both for carriages and locomotives, unless the men are too busy to get them out fast enough, when they are let by contract to spring-makers.

We could not help but admire the way in which the "general joiner" did its work. This machine saws, planes, moulds, rebates, and tenons, and the man in charge seems to have nothing to do but look on and admire, as we did ourselves.

The Company divide their locomotives into five classes,—A, B, C, D, and E,—each having

its own special work to do; for instance, B class represents express engines.

In the "loco" repairing shops, two overhead hydraulic travelling cranes render great assistance in moving about the engines, which vary in weight from 30 to 40 tons each. The "Bordeaux" engine weighs 40 tons, the average number undergoing repairs being always from twenty to twenty-five engines in all conditions, some without the outer covering or "lagging," others without wheels, some with tubes removed. To any one of an engineering turn of mind this department is one of the most interesting.

In the boiler-shops we saw plates varying from 12 ft. to 18 ft. long, and weighing from 10 to 18 cwt. In boiler-work all holes are ¼ in. diameter, and drilled with such accuracy that the plates fit exactly over each other, thereby requiring neither "rimering" nor "drifting," which is not on any account allowed. After completion all boilers are tested by hydraulic pressure up to 200 lb. per square inch, and registered in a book kept for the purpose, and signed by two responsible foremen and a witness.

We were struck with the cleanliness of the running shed, which contains sixteen roads taking three engines each, covered by a timber and iron roof, with a smoke flue to each standing for carrying away smoke when the fires are lighted. The building is lime-whited and has a bright appearance, contrasting greatly with the soot and smoke-begrimed engine sheds of a few years back.

The company make all their own "keys" used in keying up the rails. They are of oak, and are compressed. It is not usual on all railways to use oak keys, but the London and Brighton Railway like them best.

As far as it is possible everything required is made on the spot, without seeking extraneous help from railway plant contractors, so that those in charge are able to keep a constant and strict supervision over the various details in the several departments, and can thereby warrant each part of the work to be the best of its kind. To this end, they use in making boilers only the very best Yorkshire iron plates, best Yorkshire scrap-iron axles, cast steel cranks, and the leading, driving, and trailing wheels, are all of Krupp's steel.

There are upwards of 1,000 men and boys employed in the various departments of smithing, fitting, erecting, turning and boring, pattern-making, carriage and wagon building; and at these works they are able to turn out nine or ten wagons and two carriages per week. Last year about twenty locomotives were here made.

For the conveyance of passenger and goods traffic, the rolling stock of the London, Brighton, and South Coast Railway must always be numerous, and we found upon inquiry that they had about 300 engines, 2,000 carriages, and 5,000 wagons.

We were informed that from the first day of the present month the new express train, consisting of first-class carriages, and including a Pullman's drawing-room car, runs every week-day between Victoria and Brighton. The train does not stop at any intermediate station, and accomplishes the journey each way in one hour and ten minutes. The express leaves Victoria, on the down journey, at 10.45 a.m., and Brighton for Victoria at 5.45 p.m.

Our visit closed with a look into the drawing office, where we had the pleasure of inspecting some elaborate drawings of locomotives and steamboats used for the Continental traffic, and we bade farewell to Mr. Jeffrey, who certainly is one of the best guides it has been our good fortune to meet with.

ARCHITECTURE AND FINE ART OF INDIA.

ATTENTION more than usual is now likely to be called to our possessions in India. It may, therefore, be useful to jot down a few thoughts on some little-considered phases of our occupation there,—looked at artistically, and, may be, architecturally. There are, of course, aspects of a wide field of view in so vast a country as India not as yet caught sight of;—peculiar styles and phases of fine art, and certainly of architecture, and even of "construction," to be found nowhere else. The climate, the soil, the character of the natural productions, animal and vegetable life, are all more or less peculiar to that great country, while the humanity of it, it need hardly be said, is wide enough apart from anything the northern nations of the earth have ever produced. Its history, again, is not only unique, and its beginnings lost in the night of ages gone by, but is of very singular interest to a northern race such as the English; for not a few of the primitive thoughts which now lead and govern men here came originally from this far east. Of the ancient and all but perfect language, the Sanscrit, it need only be said that our own owes not a little to it, and that, looking at its extreme antiquity, it seems strange enough that it should be what it is, and so copious and complete. Mysteries enough there are here for the curious, it is certain. We must need confine ourselves to art and architectural matters, and here, in fact, there is matter enough for thought and new inquiry, and he, indeed, must be dull who cannot get a something out of it useful in more ways than one.

In the first place, and the fact should be borne in mind, the beginnings of the art of the Hindoo are absolutely lost in the past. This alone would make it a thing all but unique. Of the Gothic we see the very commencement, how and out of what it grew up; and the same of the Romanesque and of the Roman. We can trace all these more or less distinctly to their commencement. Again, there exist throughout this vast country, as in no other country in the world, a far greater number of temples and buildings devoted to religious purposes. Every grove and out-of-the-way valley and mountain-top shows some ancient chapel or temple, ruinous or not. No opportunity would seem to have been missed, so that the skill and perseverance of the old inhabitants of India found ample scope for exercise. But very little indeed of all this multitude of objects has been as yet even roughly sketched, much less measured and carefully drawn and described. There is an almost infinite field for future effort here, notwithstanding many photographs; and if this were but even partially done, how very much more should we know of the people of India! These things cannot deceive; they are permanent records to be read.

It is difficult to select what is most notable first without going into details. An art and architecture dating from a forgotten and unrecorded antiquity cannot be alike everywhere, and through so many successive ages. It must needs have changed more or less, as the Gothic here is found to have done. What took here a hundred years to do may have taken with the patient Hindoo a thousand years. But of this we know little or nothing beyond the evidence furnished by the few sketches and drawings found in books, and from the few fragments to be seen in the British Museum, the Indian Museum, South Kensington, and in the Architectural Museum, and here and there, may be, in other places. It seems a pity that casts, at least, of all the architectural fragments of Indian or Hindoo art existing in London cannot be got together and arranged in some sort of order, so that these differences might be seen at a glance. What opportunities might not the illustrious Prince himself now visiting that vast country have of adding to such means of knowledge, probably unique, and certainly beyond the reach of any less powerful influence? We need not take from the native races what is so clearly their own, but we may make records of it. It may be added here that, as Colonel Forbes ("Oriental Memoirs") emphatically tells us, the most primitive and original temple-work is to be found in the most out-of-the-way and in the wildest spots, where seclusion, beauty, and sublimity are alone to be found. Many details of infinite interest might here be added, and one thought, certainly not the least, should be kept in mind, viz., that in these secluded temples the ruling idea which built them is always symbolically to be found,—a primeval thought in the old world,—that of the creative power. No material, again, would appear to have been too costly for the Hindoo's idea of his temple. His object was to "realise his ideal" as far as that could be done. We find temples built entirely of white marble, of vast extent, containing a whole multitude of chambers, with interior apartments inlaid with mosaics, of cornelian and agate,—all hand-work, be it observed, a fact not a little noteworthy and indicative of much.

It is not to be forgotten, too, that these temples have their walls and roofs, and supporting columns, covered, not only with the most elaborate ornamental details,—foliage, conventional and natural, and designed ornaments; but the animal life and the human life of the country are to be found represented in abundance, so that the then actual life of the time in which the temple was built might, by sufficient painstaking, be reproduced, as the late Sir G. Wilkinson and others have done so well for Egypt. It is indeed surprising to find, as we see into the matter, that no attempt has been made at all adequately to do this. Looking to our interest in the country, and at our relations with the races which inhabit it, this ought to be amended. Is it not a *public* duty? It is utterly beyond any private means. We have been referring to the built temples; but there are all over India *cavern* temples, of a strange and peculiar interest, as those of Gaya, Salsette, Elephanta, Ellora, &c. *Conjecture* has failed here; the strangest and most out-of-the-way origins have been ascribed to these cave temples; so wild and improbable, indeed, that the Egyptians, the Macedonians, and even the Jews have been at divers times credited with the authorship and execution of these wonderful "caves." Of course, they are indigenous to the country and the people of it; and could we but get at the date of them, it might help much to unravel their mystery. It is a land of wonderful things, hardly at all as yet explored.

We can, in thus glancing at the cavern-temple construction of the Hindoo, hardly miss special mention of those at Ellora, situated near the ancient Hindoo capital of Deogher, in the province of Aurungabad. We can but just touch on it, as without drawings, and carefully-measured drawings too, it must convey but little. Nothing on this earth can well be more striking and awe-inspiring than the sight of the ruins of an abandoned city, — without inhabitant, and with nought but ruins and silence,—with but now and then, may be, a wild animal crossing an empty street. Such is this forgotten capital. It is full of cave-temples, containing a whole mine of architectural and archæological lore. The temples are full of an almost endless diversity of sculpture, of curious carvings, and tracery, and mythological designs. There is no clue in all these, say the travellers, to guide us to a trace of the hands by which they were designed, or even to the names of the populous and powerful nations by which they were executed. Their empire has passed away without a record and without a name. But these colossal caverns of theirs remain, and may one day or another tell the secret. The religion, by the way,—and it is noteworthy,—which gave incentive to their construction, yet exists. No natural accident, we may here learn, was ever missed by the older of the world's architects. We may have ingenuities in abundance in our railways,—the material poetry of modernism, by the way,—a purely mechanical one; but in one of these temples advantage has been taken of the mere fall of a river, and the cascade from it falls down in front of the rude archway-entrance to it, and so forms a window or door, we might say, of pure blue water. A clever bit of "architecture" enough, it must be allowed.

We might go on to well-nigh any length, for the subject is right full of inventive wonders, both in the way of architecture and stone-cutting, but must forbear, noticing only the fact that most, though not all, of these cave temples are dedicated to the worship of the god Siva and his consort Bhavani, a primæval creed.

The architecture of India, throughout the whole extent of the country, is not, of course, confined to temples, whether cave temples or built temples, but there are domestic buildings and dwelling-houses, as there must need be everywhere. These are singular enough, in their own way, when we get to examine them; that is, as far as we can by the light which we at present have, which is scanty enough. These constructions, though not so solid as the temple work, are not all of wood, as many might suppose; they are not all mere log huts. There are ancient houses of red sandstone, with stone roofs, supported by slender and delicately-carved columns. These are at times garden surrounded, and advantage is taken of the nearness of a river. This house-building, be it noticed, is not the same all over the country, but differs in each province, so that opportunities will offer in the prince's journey for comparison of different kinds of human habitation, and may be comparison with our own more "civilised" house-building. Much that is peculiar to the country, and which cannot be transplanted, there is, but many things too there are, and must be, which may afford hints for a something better here. There certainly is in India, as in England, house-building from the very highest to the very humblest.

We hope to return to the general question

of the peculiar fine art generally of the Hindoo, but cannot end this glance at its architecture without a word as to the power of colour possessed by the native races of India. Common it would seem to be to the whole country, even if not to the whole East. It is impossible to invent anything more harmonious, and eye-satisfying than the coloured decorative art of the Hindoo, wherever and on whatever it may be found. The woven fabrics are at times well nigh perfection; for not only are all the colours, so many in number, good and full in themselves and taken separately, but when together they harmonise and blend together in the most perfect and beautiful way, and a soft and pleasing effect is got beyond imitation. We say nothing at present of the effect of the hand-work in this work. May it not here do much to assist the eye, and even educate it? All our work is the result—and we are proud of it—of the perfect, may be, but still unconscious, machine. All the coloured decorative work of India we have ever studied has been hand-work, whether fragments from a building or in woven fabrics and dresses. Here, then, we have the material first as ground-work for the colour,—not a thing to be missed, for the very same colour on a different material would widely differ,—would be, perhaps, lost. It may be that the architecture of the Hindoos is away from us, can in nowise be practically applied anywhere here; but this is not the case with the coloured fabrics. Here a something is to be got; and would we could see but a little of the *genuine* stuff of the Hindoo in our shop-windows. Such would indeed be lessons in colour!

THE DUTIES, RESPONSIBILITIES, AND PRIVILEGES OF THE ARCHITECT.

ARCHITECTURAL ASSOCIATION.

The first ordinary general meeting of this Association for session 1875–76 was held on Friday, the 5th inst., when the president (Mr. John S. Quilter, A.R.I.B.A.) delivered an opening address.

In his preliminary remarks, Mr. Quilter said he entered upon his duties as President of the Association with the determination of fulfilling them to the utmost of his power. He was thankful, however, that the success of the Association did not depend upon his management, for he was supported by so many earnest and able fellow-workers that he felt every assurance in accepting the responsibilities of his office. He continued as follows:—The duties of the committee and officers of the Architectural Association have become increasingly onerous year by year, owing to its extent, growth, and prospective influence upon the profession. It now numbers nearly 700 members, although only claiming to be the junior society, having for its sole object the education and advancement of the students of the profession. This increasing influence is the natural consequence of the rapid development of the architectural profession. The Association has hitherto supplied the means of instruction which the colleges and schools have done for other professions; and when we consider that the whole of this work has been voluntary, it must be admitted that the success has been very great, especially as the requirements which it has been called upon to meet are of quite modern invention. A century ago scarcely five-and-twenty architects could be found in the United Kingdom; now, London alone contains nearly a thousand, and more than twice that number are spread over the numerous provincial towns. One of the consequences of this enormous increase has been a demand for increased skill, with the consequent division and subdivision of the duties of the architect. In former times the employment of an architect was exceptional; his place was ordinarily supplied by the builder, unless in the case of a building of great importance and considerable expense. The architect was then compelled to embrace within his practice the varied works of an engineer, surveyor, constructor, and decorator; but now the whole of the engineering work is undertaken by several separate professions. Surveying is not only a distinct division, but is also subdivided into quantity and measuring surveyors, land surveyors, and valuers, and further divisions of the profession are now rapidly taking place. Constructive, decorative, ecclesiastical, domestic, and municipal works have their special architects, who are prepared to meet the demand for special skill in each of the numerous branches. Nor is this result a matter to be wondered at. So great is the competition in every branch of our profession that nothing short of the most persistent application can ensure success in any one of them, and the practice of special study, which has hitherto only been submitted to as a necessity, must before long be accepted as a rational and desirable object to be attained. "Know what you have to do, and do it," was the advice given to the talented author of the "Seven Lamps," and it well expresses the great principle of success in the practice of architecture as well as of every other art. We are all students, either entering, or about to enter, upon the practice of our profession; and nothing can be more important than that we should have a definite understanding as to what we have to do in order that we may be able to do it. With this view I purpose devoting a short time to the consideration of "the duties, responsibilities, and privileges of the architect." Before, however, entering upon these three divisions of the subject, it may not be out of place to offer a few remarks upon what is meant by an "architect." The name, which signifies the "chief workman," more clearly expresses what he was in former times than what he now is; for the various trades connected with building have become so divided, and have consequently caused a want of general interest on the part of those employed in carrying out the works, that it has taken from the architect his position of chief workman, and he has now become the general director of the whole: he is the mind controlling and giving intention to the movement of the body, his knowledge must include every work necessary to complete his idea, and he calls them into action in the same manner as an artist selects the various colours on his palette to form an harmonious picture. The architect is no longer a leader of a band of independent artistic workmen, each having his individual skill and taste upon which he can rely without any particular instruction or direction from the architect, who has now to prepare every detail, to work out every problem of construction, and to take into consideration every accessory, before giving his instructions; and even then he has to keep a sharp oversight of the whole, in order to see that his instructions are accurately followed. Many and fallacious are the opinions of the public as to what an architect is. Some imagine him to be an ideal personation of artistic ability, whose word or sketch is sufficient to create "a thing of beauty" which shall be a "joy for ever"; whilst others look upon him simply as a mechanical individual who is required to provide so much brains in consideration of so much per-centage. These errors are not to be wondered at, seeing that so undecided an opinion is held on this subject by the profession itself. It cannot be expected that the public will ever place the architect in that position which he has a right to claim until his duties, responsibilities, and privileges are more clearly defined; and if architects themselves cannot agree, the public will suit its varying fancies, and architects will be tossed from pillar to post, the abused of all, and trusted of none. A sober unprejudiced consideration of the duties of an architect will readily supply sufficient material to form a fair opinion upon the subject. In general terms, the architect may be described as the artistic and constructive adviser of his client, and the less he has to do with the business transactions (as a party to them) between his client and those employed to execute the work, the better for his position, for the only way in which he should be associated with any contract or agreement is in the position of an independent adviser. This will free him from any supposed bias in favour of the employer, and remove any possibility of a doubt as to his acting with perfect impartiality between both parties. A general impression prevails that the architect is the agent of his client, bound to stand by his interests whether just or not; but nothing can be more prejudicial, as by accepting such a principle he lays himself open to suspicion, and unless he is a very keen man of business, he becomes fair game for every unprincipled workman to dupe, on the ground that it is business to look after his client's interest, and the workman's to do all he can to over-reach it. Such is the result of this vicious principle, and nothing but a rigid stand on the honour of the profession could remove the impression. The employer or originator of any work in which an architect's skill is required does not seek the aid of an architect in the same way in which an aggrieved person seeks that of an attorney, but, having explained to him the general character of the work he wishes carried out, he then asks his advice as to the best means of obtaining the execution of his wishes. From this it is evident that the first duty of the architect is to ascertain with great care and definiteness the views of his client; many of them may be mistaken, but the mistake will generally be found to arise from a want of technical knowledge, and this may be set right. But every attention must be paid to the object which the promoter has in view, and it will be necessary that the architect should divest himself of every preconceived idea, and ascertain by patient investigation and tentative suggestions upon what his client's views are based. Much labour may be saved, and many misunderstandings prevented, by a careful attention to these points. In short, the architect must not forget that it is his duty to give the best effect he can to his client's views. Possibly they may not at first commend themselves to his taste, but no architect has any right to insist upon his client adopting his own theories in matters of taste, and if it is found impossible for both to agree, it would be far more discreet, and show a nobler spirit, for the architect to suggest that his client should seek the assistance of some one more likely to comply with his wishes, than to force upon the client a work which will always be a source of vexation and annoyance. This is a hard doctrine, especially to a young architect anxious to do his best, and make his mark while he wishes to retain his client, but I commend the practice to all who wish to maintain the standard of the profession. It is also the duty of the architect to keep in mind that he is a member of an honourable profession, and he is bound to do everything in his power to raise a high standard of honour in all his transactions, by refusing to take any part in actions, whether suggested by clients or others, that would be derogatory to the dignity of the profession. The temptation is often very strong, and the worldly advantage, or fear of offending one whose interests you are anxious to secure, are great inducements to yield; but, apart from higher motives, the sense of honour towards our fellow-members should be sufficient to prevent our engaging in any undertaking which we should not like others to know. I regret very much that it should be necessary to urge such warnings as these, but it is to be feared that the race for wealth which has caused so much moral dishonesty among many classes of society, has also given rise to actions on the part of members of our profession which are not likely to bring credit upon those who have engaged in them. The next duty of the architect, after clearly ascertaining the wishes of his client, is to bring his own knowledge and experience to bear upon the subject, in order that he may advise as to the best means of carrying out the work. And here his ability and character find their greatest development. It will be necessary for him to bring every faculty which he possesses to bear upon his work, and at no point is any weakness or ignorance of his duties more likely to be evident, for not only will he be compelled to show that he has grasped the wishes and intentions of his client, but he must also be able to suggest the best means to be adopted in executing every part of the work; and lastly, he must have a sound judgment as to the probable cost of the whole, in order that his client may decide before he has gone too far as to the advisability of proceeding or modifying his ideas. This latter requirement is the great bugbear of the young architect, who is always sanguine that he can get the work done much cheaper than any one else, and is fearful of naming too high an amount lest his client should abandon his intention; but a diligent study of this duty will well repay the labour, and save many a dispute afterwards, for it is undoubtedly one of the duties of an architect to give his client a reliable estimate of the cost of works that he is asked to design, and any attempt to delegate this duty to the surveyor is an injury to the position of the architect. This does not, however, imply that he should be either a quantity surveyor or a valuer; their duties are quite distinct, and are in no way interfered with by this duty of the architect. Having completed these preliminary duties, his next duty is to prepare such instructions and details as will enable those employed to execute the works. The particulars of this part of the work of an architect are too well known to require any description; nor need I stay to refer to the duties of the surveyor in preparing the quantities; but we next come to the duties of the architect in superintending the execution of the works, and I would refer to these particularly, because great laxity and want of carefulness is often shown here; and it is to

be feared that it generally arises from a want of practical knowledge on the part of the architect, and this arises from the imperfect education on practical subjects which the present system of pupilage gives rise to; and it does not relieve the architect from his duty because he has a clerk of the works who attends to such matters. But it is not only the architect's duty to prepare his design, but also to know how the design is to be executed in every particular. It is, I believe, a general impression among clerks of works that it is their business to make any alterations that may be necessary to enable the architect's design to be executed; but no more mischievous theory could exist, as it implies that the design and the construction are quite distinct matters, and that it is not necessary for the design of any work to be dependent on its construction. I cannot but refer here to the great advantages which are afforded to the young architect by the classes of the Association, and especially the class of construction, in which the detailed work of every trade is described and illustrated, and I have been astonished, in looking through the papers of last session, at the amount of really useful information that has been collected; in fact, it has struck me that, notwithstanding our already over-crowded literature, we are sadly in want of an architect's technical handbook. This completes the duties of the architect, for since the introduction of the separate profession of measuring and quantity surveyors, the measuring-up and adjustment of the accounts, as well as the preparation of quantities, falls into their hands, and we may hope that the rapid rate at which the profession is increasing will result in a more uniform and satisfactory method of measuring builders' work; for it is a great drawback to the system, which is otherwise so desirable, that the various ways in which works are measured up will often make a difference of 10 or 15 per cent. in the builder's account. Much more might be said upon this, but it is not within our province. Before I leave this portion of our subject I take the opportunity of directing attention to the other branches of the Association, and of pointing out the manner in which they are intended to assist the student in obtaining that knowledge which is necessary to prepare him for the practice of his profession. I have already referred to the Class of Construction, which has for its object the study of the science of building, with especial reference to a knowledge of the details of the various trades; and in addition to this a class has recently been formed to study the theories of construction, in order to afford the student an opportunity of learning the higher branches of the science. The artistic part of an architect's duties are well provided for by the two Classes of Design and the Class of Colour Decoration. The elementary Class of Design gives the younger student instruction in the general principles of design, and a definition of the various styles that have been employed during the different periods of English history. The senior class prepares the members for carrying this knowledge into practice, and by designs for special subjects under certain restrictions, affords opportunities for overcoming obstacles which are sure to present themselves in the ordinary practice of an architect. The Class for Colour Decoration provides the means of studying one of the special branches which are taken up by some architects, and other classes could readily be formed in a similar manner for the practice of design in furniture, stained glass, and many similar subjects, if a sufficient number of members were willing to unite for that purpose. There is, however, a want of unity of purpose in all these classes, and I can only suggest one means by which they can all be brought to work together, and that would be by making it the object of each to prepare the students for the various divisions of the Architectural Examination. There are also classes for the study of land surveying on the one part, and water-colour drawing on the other,—subjects associated, although not intimately connected, with architecture; but we must now pass on to consider some of the responsibilities of architects. This is a difficult matter to deal with, and requires extremely careful consideration, for unfortunately there are many points of great importance to the profession that have not been legally decided, or as to which the decisions given have as often been upon the one side as upon the other. But I cannot believe that this is a good and sufficient reason for avoiding the question, as was suggested at the Conference a short time ago. Surely it is one of the chief duties of any society that claims to have the interest of the profession at stake, to devote its energy to the removal of these doubtful points, and, if necessary, to get the sanction of the legislature to a general code of laws affecting the profession. It has frequently been supposed that an architect is responsible for every matter that goes wrong in a building erected according to his designs, whether the error arise from careless workmanship or unforeseen contingencies; in fact, some two or three years ago the *British Medical Journal* and the *Pall Mall Gazette* seriously discussed the liability of architects for murder, owing to the faulty construction of some drains; and many cases have occurred in which architects have been held responsible for the faults and delinquencies of the workmen employed in carrying out works from their designs. The chief cause of the error arises from a mistaken view of the duties of the architect; for if he is supposed to be the agent of the employer, and his duty to consist in seeing that the interests of the employed are protected, such may naturally be the consequence; but if the architect takes the position I have advocated, as the professional adviser of his client, and as an impartial umpire between all parties in the matter, he will be free from any such liability, and the only ground upon which he can be held responsible would be the most reasonable one of want of knowledge or ability in the practice of his profession,—a responsibility which no architect having any claim to the title would for a moment hesitate to assume; and it should be the duty of the profession to give to all qualified architects such evidence of their qualification as would enable the public to know that they were incurring a risk in employing any one in the capacity of an architect who did not possess the necessary evidence of his fitness. This has been attempted partially by means of the Architectural Examination; but until the matter is taken up by the whole profession, and no one allowed to practise without first giving proof of his ability to perform the duties of an architect, it is vain to expect the public to take the trouble to ascertain an architect's qualifications, and any tyro who has a sufficient number of friends can commence to practise as an architect, and, trusting to his good luck, with the assistance of a few clever draughtsmen, may delude his clients into a belief that he is a duly-qualified architect, until some irreparable blunder dispels the vain delusion. This brings us to consider, lastly, the privileges which belong to the architect, and I fear their enumeration will not occupy much time, for so long as we are content to scramble among the common herd for the chance of picking up a few guineas, it would be well to say little about privileges; these can only be claimed by those who are willing to uphold the dignity of the profession, both by a careful study and preparation for its duties, as well as by a strong determination to withstand any attempt at lowering its standard. The architect's privileges are: confidence and reliance on the part of those for whom he acts; a submission to his opinion on all subjects connected with his art; and a ready acknowledgment of his services. The attainment of all these may appear Utopian, but if so it is the result of the unstable condition of the profession; and the architect who is the best qualified for his duties is compelled to submit to treatment which is ungenerous and disgraceful, because there are others in the profession who find such submission the only way of covering their failings. It must not be supposed that I am crying down the profession, or attempting to make out the evils to be worse than they really are; a careful perusal of our periodical publications will reveal a state of affairs quite as bad as I have described, and my only object in drawing attention to them is to urge the adoption of some remedy for the evil, which is not likely to be removed if it is passed over as a matter not calling for attention. I have a very strong objection to anything like a radical reform, as it often cures one evil by substituting three others for it; but I hold that the cure is to be gained by an increase of conservative principles, and the avoidance of any cliques or party-spirit. To conclude, I would ask your attention whilst I endeavour to apply this matter to the object of our gathering this evening. It may be said, and justly, that I have said a great many things which everybody knows, and it may possibly be thought that the subject is of very little practical use; but if I can succeed in impressing upon the younger members of the Association the necessity of a high standard of attainments for an architect who wishes to stand well in the profession, I shall feel I have done something towards raising the profession of architecture to that position which it should occupy; and, judging from the many evidences I have seen of ability among the numerous members of the Association, I am convinced that we have within our ranks sufficient power, if rightly developed, to accomplish for the profession all the objects which I have endeavoured to recommend. I have, therefore, thought it desirable in my remarks to aim rather at the result than the means, and to lay before you some reason for an earnest, persistent, unanimous effort to do our utmost as members of an honourable profession to raise and maintain the highest possible standard.

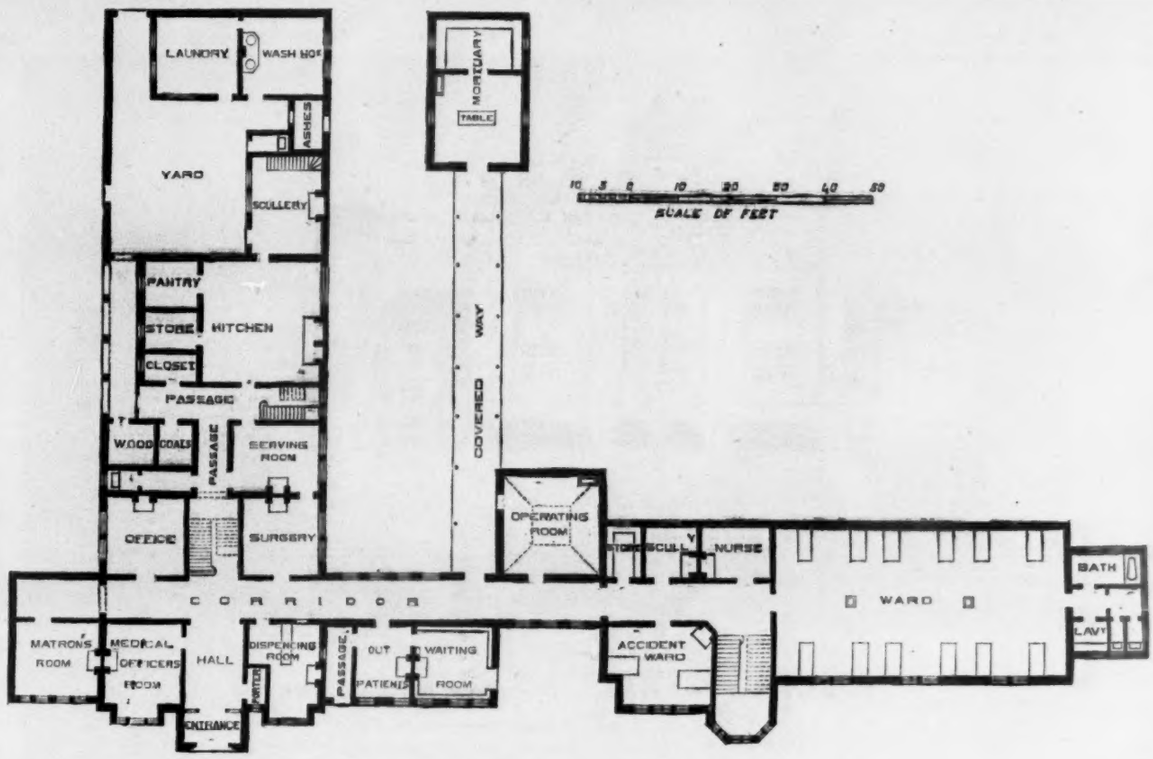
Mr. W. H. White proposed a vote of thanks to Mr. Quilter for his address.

Mr. R. Phené Spiers, in seconding the motion, said that Mr. Quilter's address, following upon the reports of the various classes of the Association, had very appropriately dwelt upon the subject of education. One point worthy of special note was that the Association had increased in numbers because it was really educating the profession. Now although, as a very old member of the Association, he (Mr. Spiers) was naturally only too proud to see it occupying its present position, yet, as a member of the profession, he would rather see the Institute occupying the position of usefulness now held by the Association. He thought that the Institute, as the senior and chartered body of the profession, ought to have long ago undertaken the work of education carried on by the Association. When, forty years ago, the Institute was established, there were very few architects in London, and the number of Fellows did not amount to more than forty. At that time, when the term of articles was seven years, it was not so necessary to provide for any system of education supplementary to that of the office, and it was therefore not surprising that the Charter of the Institute said nothing as to providing for the education of the young architect. But now, circumstances were greatly changed; the profession had greatly increased, but the term of pupilage had decreased to three years. The number of subjects with which the young architect was now expected to acquaint himself was so greatly augmented that it was futile to hope that he could master them all in three years. It was, therefore, necessary that he should be able to avail himself of such supplementary means of professional education as were afforded by the Association. Everybody would admire the spirit of "self-help" which had characterised the efforts of the younger men of the profession in carrying on the work of the Association, but he maintained that this work of professional education ought to be taken up by the Institute, and he believed that until the Institute did take it up it would never thoroughly command the respect of the profession. Curiously enough, the strongest opponent to the Institute's becoming an educational body was Professor Donaldson, who was deservedly respected as the instructor of probably half of the living architects of eminence. Unfortunately, he did not see that the Institute was losing ground because it persistently neglected the subject of education. If the Institute would become the recognised school of instruction for the profession, its influence would increase, not only with the profession, but with the public. This would sooner or later be generally admitted, and the time would come when the Association would have a portion at least of its work transferred to the Institute.

SOME OLD HOUSES AND THEIR STORIES.

The first Opera-house in England and the last Theatre to which the People went in Boats.

The rude old theatres in which Shakspeare and his fellows played had long stood amongst the narrow lanes and mean alleys which fringed the Surrey side of the Thames, flagless, neglected, and desolate, when the bells of St. Mary Overy pealed out their merry welcome to the king who had come to claim his own. The poor old actors, who had fought and bled in the royal cause, were wild with joy at the prospect of resuming their old dominion over the thoughts and feelings of delighted audiences. The old shabby playwrights who had been starving in their dingy garrets once more wreathed in smiles their thin white faces, and came forth hopefully into the light of day, cheering frantically. Rhodes, the old prompter at the Blackfriars



HOSPITAL, STOCKTON-ON-TEES.—*Ground Plan of Part.* [See p. 1019.

Theatre, who had turned bookseller in the village at Charing, deserted his little shop, and in company possibly with young Kynaston, the draper, shouted a welcome to the king. Sir William Davenant, who had won his knighthood on the battle-field, and been appointed poet laureate by Charles I., for whom he had fought and suffered, he who,—if a tradition in which there is nothing improbable may be believed,—was Shakspeare's godson, hurried from Charterhouse-square, where he had established some kind of musical entertainment, to shout, and shake hands, and laugh, and clap shoulders, and cheer, and congratulate, with as much energy and heartiness as the best of them. It was a wild, merry time for London, but the change was in no place so brightly hopeful and joyous as it was in the hearts of the old actors and playwrights.

The theatres were soon once more in the full flow of their popularity, one was opened in Drury-lane,—the Cockpit,—by Rhodes; Davenant opened the old Bull Theatre in Clerkenwell, but from thence went to a larger building in Salisbury-court, Fleet-street, which had formerly been the granary of old Salisbury House, to the great annoyance of pious citizens. Afterwards he migrated to a more pretentious theatre outside London, on the south side of Lincoln's-inn-fields. Great changes were then beginning to be made in connexion with theatrical entertainments. In the place of the boys and young men who, in the reign of Charles and James I., had played the female parts, women began to appear, to the great disgust and indignation of the Puritans, and of many others, who were so far justified in their abuse of these women actors, that with all their charms and talents they made the name of actress shameful, and the term "Miss," by which they were first designated, an insult to every virtuous woman.

At last arose, in the year 1671, a wonderful new theatre, far outshining in its size, conveniences, appliances, and architectural pretensions, all that had been before. This was the Duke's Theatre, in Whitefriars, designed, it is said, by Wren, and decorated by Grinling Gibbons, which Dryden afterwards described as "the gaudy house," and "like Nero's palace, shining all with gold." It faced the river, and had a landing-place for the convenience of the crowds who still came to the theatres, as they did in Shakspeare's time, by water, carriages being few, public conveyances scarce or not yet known, and the streets and suburban roads and villages very dangerous after dark. These things were referred to by Dryden, who, when advocating the advantages of the provincial theatre in Drury-lane for the aristocratic residents in the Strand and Westminster over this City Theatre in Dorset-gardens, which he stigmatised as the resort of "cits," said:—

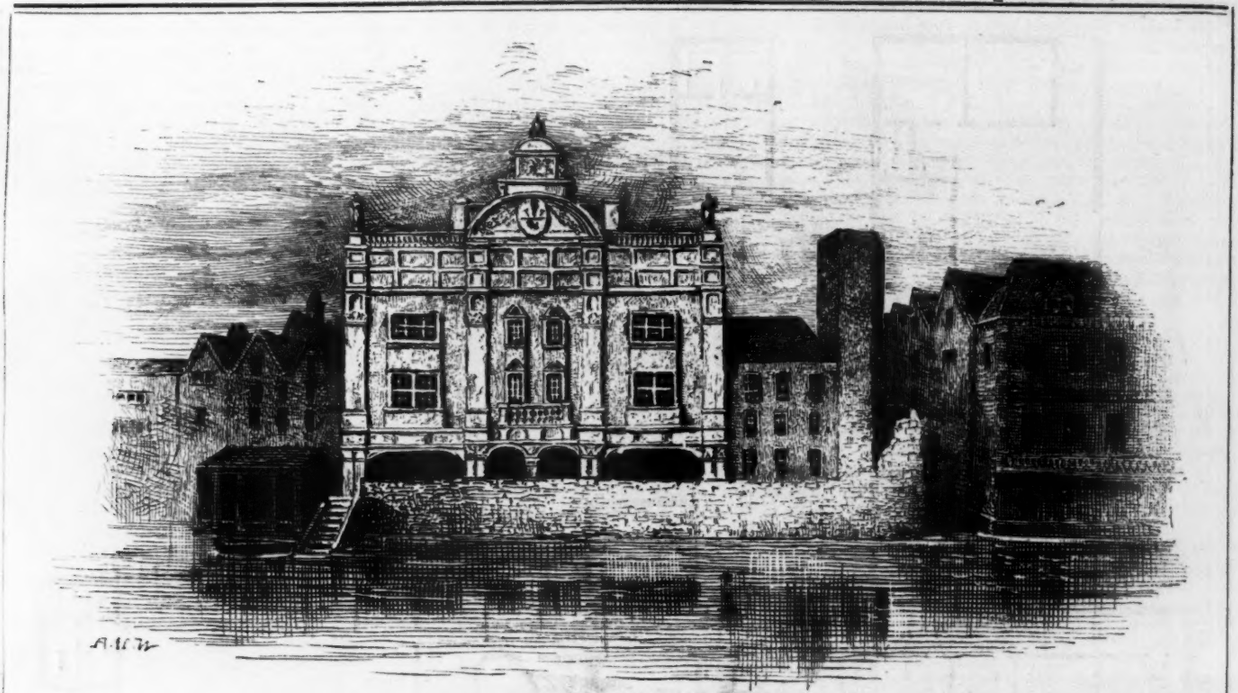
> "Our house relieves the ladies from the frights
> Of ill-paved streets and long dark winter nights."

Of the other house, the Duke's Theatre, and first English Opera-house, in the latter stage of its existence, when deserted and ruinous, after patchwork alterations to increase its height, with other additions and mutilations of successive years and varied uses, it was awaiting its final removal, we give a sketch from a print published shortly after its final destruction. Of what it was like in the reign of Charles II., when gilded barges, with silken awnings, and crowds of small boats brought gaily-attired and eager thousands to feast their eyes and ears within its walls, we may obtain some idea from the rude copper-plate engraving which the old dramatist who held the now obsolete post of City poet or deviser of Lord Mayors' Shows, Mr. Elkanah Settle, appended to his published play of "The Empress of Morocco." This play Sir William Davenant first performed, and for it the author contrived some remarkable mechanical effects in connexion with some famous new scenery. A copy of this plate was recently given in Cassell's "Old and New London," a work of great interest and value, now in the course of publication. The theatre was one of the great London lions in the year of its opening, and the citizens were very proud of it, although some in authority desperately opposed it. The river brought it ribboned, belaced and beplumed gallants, with broad-brimmed hats worn over huge curling flaxen wigs, costly silks, satins, and velvets, gleaming and flashing jewelry, and coarse, indecent jokes, to make the masked beauties smile or blush, or the pretty orange-wenches leer and laugh, and Fleet-street was filled with the great swaying gilt coaches, drawn by strong Flemish horses, conveying stately dames and other noble personages to it by land. Picture them, and fancy you hear the cries of the coachmen and the running footmen, squabbling for precedence or room in the smoky red light of flaming torches, in which light also the noisy boatmen and bargemen are shouting, swearing, and quarrelling. Listen with your mind's ear to the shrieks of timid women, afraid of drowning; to the oaths of angry citizens and stout apprentice youths, crowding into a compact mass, struggling and fighting for admission at each of the three front entrances; and add such other incidents and things as your imagination will readily enough furnish, when "if you only fancy hard enough," you may declare that you paid a visit,—of course, by water,—to the first English opera-house on the banks of the Thames.

Sir William Davenant probably witnessed, when in France, the advent in Paris of a travelling itinerant player, whom all the world now knows as Molière, and who, in the year 1653, produced his first famous comedy of "L'Étourde," which the Duke of Newcastle, author of a well-known work on horsemanship, under whom Davenant fought as a lieutenant-general of ordnance, translated into English. With this comedy, prepared and adapted for the stage by Dryden, the new theatre in Dorset-gardens opened, the piece being called "Sir Martin Marplot"; but Sir William did not live to witness that event, and the company was consequently managed by his widow, aided, probably, by the ingenious Settle. She was one of the first ladies who trod the stage in England, and was also almost the only one who retained her reputation as a respectable woman after doing so.

Prior to the year 1600, musical art was in this country at a very low ebb, being confined to sacred chants and hymns in the Latin language, and the rude simple ballads of the people, with, in polite society, more elaborate productions in the way of madrigals and love-songs. Towards the close of Cromwell's life Sir William Davenant had introduced a species of dramatic music, which the Puritans allowed to be performed, as not partaking of the supreme wickedness of stage-plays. These were introduced in, or at the back of, a house in which the Earls of Rutland had formerly resided, near the Charterhouse, by Smithfield,—where the last of the City poets, poor Elkanah Settle, died in 1724,—and appears to have been so popular that something of the same kind was projected for the new theatre. The result of this idea was the production of the first opera deserving the name, based on Shakspeare's "Tempest," with Dryden's modifications, in 1673, and with "expensive scenery," such as was first seen at this house.

Lady Davenant was assisted in the management of her theatrical property by the famous actors, Betterton and Harris, and by her eldest



The Duke's Theatre, and First English Opera-house, Whitefriars. 1674.

son, Dr. Charles Davenant, who afterwards grew eminent as a lawyer and politician. And, by-the-bye, if we are to give the palm "where merit points 'tis due," it is hardly fair to award the whole credit of introducing regular scenery on the stage so exclusively to Sir William Davenant, seeing that when he wrote masques for the Court of Charles I., in which royal and noble personages were the actors and actresses, he must have been familiar with the scenes and pieces of trick machinery prepared for these performances by Inigo Jones, and that it was his widow and her son, who, assisted probably by the well-known mechanical ability of Settle, devised such things for the Dorset-garden, or, as it was sometimes called, the Salisbury Court Theatre.

The dramatic opera of the "Tempest, or the Enchanted Island," with such tricks as we now see in pantomimes, was followed by that of "Macbeth," similarly treated, and by "Psyche," probably an operatic adaptation from the Court spectacle of Molière, and other musical pieces, in some of which singers and dancers from France were introduced, making the performances at the City house constantly increasingly attractive, so that the king's company of players in the provincial or suburban house in Drury-lane began to suffer severely from empty benches, and a vacant exchequer. For this reason, on the burning down of the old Cockpit Theatre, Sir Christopher Wren was also employed to devise and erect for his Majesty's servants a new theatre, in which all the appliances and means for lighting, scenery, and machinery, enjoyed at the City house by the Duke's servants, should be obtainable. The new theatre was completed and opened in 1674, and glorious but immoral John Dryden's services were secured for its inauguration, just as they had been for the opening of the Fleet-street playhouse, in which also several of his best known plays were originally produced. It was in the opening address spoken on this occasion that Dryden admitted that the new theatre was inferior in points of decoration and attractiveness to that which he had deserted, saying:—

"A plain-built house, after so long a stay
Will send you half unsatisfied away,
When fallen from your expected pomp, you find
A bare convenience only is design'd.
You, who, each day, can theatres behold,
Like Nero's palace, shining all with gold,
Our mean ungilded stage will scorn, we fear,
And for the homely room disdain the cheer.
They who are by your favours wealthy made
With mighty sums may carry on the trade:
We broken bankers, half-destroyed by fire,
With our small stock to humble roofs retire,—
Pity our loss, while you their pomp admire!
For fame and honour we no longer strive:
We yield in both, and only beg to live,
Unable to support the vast expense,—
Who build and treat with such magnificence
That, like ambitious monarch of the age,
They give the law to our provincial stage.
Yet, if some pride with want may be allow'd,
We, in our plainness, may be justly proud.
'Twere folly now a stately pile to raise,
To build a play-house while you throw down plays,
While scenes, machines, and empty operas reign,
And for the pencil you the pen disdain."

It will be remembered that the old play-goer, whose immortal diary will ever be popular, Pepys, was one of the most frequent admirers of the performances at the Duke's Theatre. There he saw "The Changeling" played, after a long withdrawal of twenty years, to appreciative audiences. There he pronounced "'The Bondman' an excellent play and well done," Betterton being thought peculiarly excellent. There he went, when disappointed by the empty condition of the King's Play-house, to see a new play called "The Queen's Maske," in which one of the greatest parts, that of *Cupid*, was played by a little boy. There, on other occasions, as he tells us, he saw several other new and old plays, and there it was once his good fortune "to sit by a most pretty and most ingenuous lady," who, he adds, "pleased me much." At another time, while in the same theatre witnessing Sir William Davenant's opera of the "Siege of Rhodes," he tells how, "by the breaking of a board over our heads, we had a great deal of dust fell into the ladies' necks and the men's haire, which made good sporte." He also notes that on this occasion the king was present. On another occasion, when visiting the rival house, he says,—"But strange to see this house, that used to be so thronged, now empty since the Opera began; and so will continue for a while, I believe."

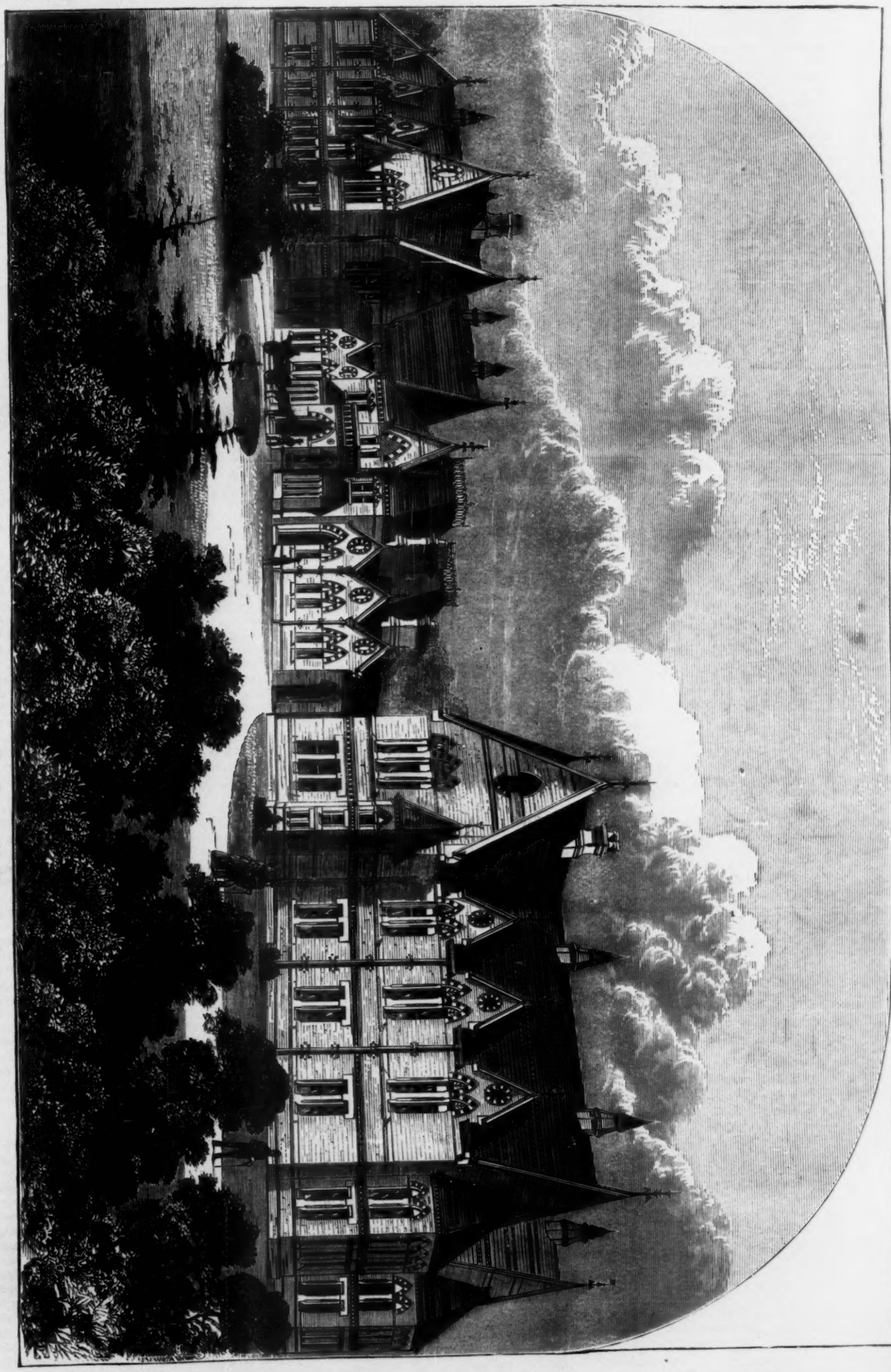
It was at the theatre in Dorset-gardens, during the representation of "Macbeth," as mutilated and murdered by Sir William Davenant, that the wealthy young rake, Mr. Scroop, had the sword of Sir Thomas Armstrong run through his body in one of those play-house quarrels which do not appear to have been at all uncommon.

At length, only eleven years after its opening, the glory and grandeur of Sir William Davenant's new theatre suddenly collapsed. The King's and the Duke's company amalgamated, and in 1682, London having so changed its aspect that the City was no longer fashionable, removed to the theatre in Drury-lane. The house in Dorset-gardens was let for concerts, and to wrestlers, swordsmen, and prize-fighters, rope-dancers, tumblers, conjurors, and other performers, whose announcements figure prominently amongst the advertisements of the time. In one of April 24th, 1700, for instance, we read of a curiously combined entertainment, consisting of a concert and a prize-fight between one Joseph Thomas and a Mr. Jones, from North Wales. A year or two before, the place was used for the drawing of a penny lottery, and a scheme was afloat to revive its former glories in 1703, when Queen Anne, who did much for the reform and purification of the stage, legally ended its chance of restoration, so that it was perforce abandoned by the arts of amusement, and turned into a woodyard and saw-pit, for which purpose it appears to have been partially pulled down. Thus degraded, it remained until 1720, in the reign of George I., when Strype mentions it in his continuation of Stow. Remains of it were still in existence when the New River Company established their offices in Dorset-gardens, and when gas was introduced by Winsor, the German, whose first experiment therewith was tried at the then new Adelphi Theatre. The first great gas-works were erected on the site of the first great playhouse, in which King Charles the merry, with all his gay ladies and dissipated courtiers, had seen the first scenery, listened to the first attempt at anything like a concert of instrumental music, heard the first opera, seen the first ballet, witnessed the first mechanical stage-tricks, and, for the first time, been introduced to a stage lighted with innumerable concealed lamps and candles arranged somewhat after the fashion of those jets of gas which now fringe the "wings" and "sky-borders" of the modern theatre.

When the great gas-works are removed from the river's bank at Whitefriars, we wonder what new thing will arise there. It will be odd if some other new idea there finds expression and development, as from rumour's lips we learn it may.

NEW SURGICAL HOSPITAL AT STOCKTON-ON-TEES.

The foundation-stone of this building was laid on the 30th ult. by Mr. Marshall Fowler. The elevation is being carried out in red pressed brick with stone dressings, relieved with black bricks and ornamental string-courses. The portion now in course of erection consists of two blocks, viz.:—The administrative department and the south-east (Marshall Fowler) wing. The former contains, on the ground-floor, medical officer's room, matron's room, surgery office, operating ward, with kitchen, scullery, washhouse, and other accommodation. On the first floor of the block is a large convalescent ward to contain three beds, six beds for special cases, and bedrooms for the various officials, servants, &c. In the basement are three large store-closets. The other block forming the south-east wing contains on the ground-floor an accident ward, two beds, and a main ward with ten beds. This ward has



PROPOSED HOSPITAL, STOCKTON-ON-TEES.—Mr. Eugene E. Clephan, Architect.

also a bath-room and water-closets attached in addition to a nurse's room and a store-room. On the first floor the arrangement is precisely the same as on the ground-floor. The building is so arranged that three extra wings can be erected on the same plan as the south-east wing. The administrative department is also so combined that four wings can be worked in it. The hospital will now contain thirty beds for patients, and when the other wings are erected it will accommodate 102 beds. The estimated cost of the present building is 4,500*l.* exclusive of land and furnishings. Mr. E. E. Clephan is the architect; Mr. J. Gibb, builder; and Mr. C. Gibson, clerk of works. The complete hospital is arranged for 120 beds.

NEW ASYLUM NEAR GLASGOW.

The new and commodious Lunatic Asylum connected with the Barony Parish, Glasgow, and situate at Woodlie, near Lenzie, was formally opened the other day, by Mr. Maxtone, Chairman of the Parochial Board, several members of Parliament, and a number of influential citizens of Glasgow, assisting at the ceremony. The new building is in the Elizabethan style of architecture, and has been built from plans by Messrs. James Salmon & Son. The whole range of buildings is over 700 ft. long and 450 ft. broad, and occupies about six acres of ground. The most imposing features, perhaps, in the exterior view are the two towers rising from the centre of the structure, and which are of combined elegance and strength. There is also an appropriate *flèche* surmounting the chapel. All the details of the exterior are in keeping with each other, and the whole structure is in harmony with its natural surroundings. In the interior the arrangements are on the requisite scale of completeness. The chapel is seated to accommodate 400 persons; it is appropriately ornamented; the principal window being fitted with three divisions of stained glass, representing "Faith, Hope, and Charity." This part of the work was executed by Mr. Ballantine, of Edinburgh. Close to the dining-hall, in which 400 persons can partake of their meal at one sitting, but on the other side of the corridor, is the kitchen, 60 ft. long by 35 ft. broad, and having a spandrel roof about 30 ft. in height. The provision made for culinary operations in the kitchen is of approved kind, and will allow of the preparation of food for no fewer than 1,000 persons, this number including servants and attendants, being the maximum ever expected to reside on the premises at one time. The arrangements in the block of buildings to be used for laundry purposes are also on a correspondingly extensive scale, the motive power being provided by a 12-horse power horizontal engine, connected with a large well by direct-acting pumps. In a separate range of buildings are the workshops, to accommodate the inmates in carrying on various useful trades. The necessary accompaniment of recreation, too, has not been neglected, the hall devoted to this purpose being on the second flat of the building. Its dimensions are about 90 ft. long by 60 ft. at the widest part, and being fitted with a platform which can be made available for musical or dramatic entertainments. A similar plan has been adopted in the arrangement of the male and female departments of the asylum, each class of patients being provided with a comfortable day-room, furnished with tables, couches, chairs, and bookcases. In the dormitories considerably more space has been allowed for each patient than is required by law. The sanitary arrangements, also, have received attention, every apartment, large and small, being well lighted and ventilated, while lavatory and bath accommodation has been externally provided throughout the whole premises. In all there are 110 single rooms for patients, or at the rate of 25 per cent. of the whole accommodation, as compared with the proportion of 2 per cent. usually provided in Continental lunatic asylums. As a further instance of the care which has been exercised to meet all the requirements of such an institution, it may be mentioned that a handsome corridor, with glass roof and sides, leads to the chapel. Along this corridor flowers and plants have been tastefully disposed, so that in case of inclement weather it shall form an agreeable promenade indoors. The Barony Parochial Board bought the estate on which the asylum is situated, extending to 167 acres, in 1852, the price paid being 56*l.* per acre. Originally it was intended that the asylum should cost 58,000*l.*, but the plans were afterwards modified with a view to provide larger dormitories and day-rooms. The accommodation of the administrative department, which at present is for 400, can be readily extended, so as to provide for 800 or 1,000 patients. The alterations in the plans, increased cost of wages, and other additional expenses not anticipated, raised the original estimate to 139,446*l.* 14*s.* 10*d.*, of which 127,779*l.* 3*s.* 3*d.* have been paid. A suitable residence for Dr. Rutherford, the medical superintendent, stands to the north of the asylum, and a large porter's lodge at the entrance-gate. There are only thirty patients in the asylum at the present time, but the necessary arrangements will soon be complete for the accommodation of the remaining portion of such afflicted persons as come within the jurisdiction of the Board. After the formal opening there was a religious service, a luncheon, and a *conversazione*.

ORGANS IN CHURCHES.

IN RE ST. MARY'S WOOLNOTH.

Sir,—Your correspondent, "An Architect," is somewhat positive in his reply to my remarks as to the effect of the ground-floor position on an organ. I did not write by any means so much at random as he supposes.

I am quite acquainted with the choir of St. Paul's (and do not understand why I should be supposed not to be), and know exactly where the organ stood. "An Architect" thinks the deterioration of its effect could not be the want of space, because there were "oceans of space" before and behind, &c. But does he not see that placing an organ under an arch at one side of the avenue of the choir is a totally different thing from placing it in the centre, so as to speak, straight down the centre aisle, and not against the side wall? That is surely enough in itself to account for the deterioration of the effect; and it would have been just the same, I believe, if it had been raised to the same level as before, or perhaps worse, as the sound would then have been driven down by the soffit of the arch immediately over the instrument. But it is the side position that does the mischief, and the placing of an organ so as to destroy its unity of effect. There is a move now for getting organs out of the centre of cathedrals, for the sake of a "vista," and then architects seem to think they may pack the pipes away anywhere. I noticed an instance in Worcester Cathedral the other day, where the organ has been placed in a side arch of the choir; but as it will not all go in, the pedal reed-pipes, the most powerful in the organ, are to be seen standing along the floor in the choir-aisle behind the piers, like naughty boys put in a corner, where they must make a sufficiently astounding noise in the ears of casual passers-by, and enjoy a completely separate existence from that of the instrument of which they are supposed to form a part.

As to the general question of placing organs on the floor, "An Architect" quotes Mr. Hopkins as against it. I have not his book at hand; but I read and made copious notes from it a long time since, and am strongly under the impression that Mr. Hopkins himself somewhere makes a remark as to the increased resonance derivable from the floor under certain circumstances. At any rate, I have heard the verbal opinion, in favour of placing organs *low*, of one of the first,—probably the first,—of living organ-players; and having been for nearly twenty years in the constant habit of playing on organs in all kinds of positions, have had some opportunity of forming an opinion on the point. Of course, material is to be taken into consideration. A marble or stone floor is not resonant; and an advantage may be derived from the use of a wooden gallery in that case, by bringing a greater quantity of resonant material in direct connexion with the pipes. But the raising of the instrument from the floor has nothing to do with it, that I can see. And even if it were admitted to be an advantage in a cathedral, where there is ample height, it is quite a different thing in an ordinary-sized church, where the exaltation of the organ to a gallery brings the larger pipes close to the roof. Even if it were admitted that it is desirable to have space *under* an organ, there can be no question that it is much more important to have space *over* it. I have frequently played on organs in high galleries, and have always considered them most disadvantageously situated for effect, and (what is more to the purpose) have heard the lamentations of organ-builders who have been compelled against their will to build instruments in that position. I remember hearing a well-known builder, after listening to one of his own organs in a gallery, observe, that if he had not known what was in the instrument, he should have said it was a very bad one; that it did not matter what you put in an organ when it was in such a position, for it could never sound well; that if it were in the body of the church it would be a totally different thing; and so on. Depend on it, the "organ-loft" is only a shade better (if at all) than the "organ-chamber." On the other hand, it fell to my lot once to accompany 300 voices at a choir festival on a small and incomplete organ, situated in what I regard as, musically speaking, the ideal position for a church organ, viz., on the floor at the west end of the nave. The instrument seemed at first sight to be very inadequate to the occasion, but it turned out quite otherwise, and formed an ample support to the large body of voices, in a way in which it would never have done had it been mounted in a gallery and sounding over their heads into the roof. The combination of the instrument with the singers is another consideration not to be overlooked now that it is universally admitted that the proper place for those who lead the singing is on the ground-floor with the congregation.

Before writing this letter I visited St. Mary's Woolnoth, and saw how the organ stood, and where it is to stand. It must have had nearly all the disadvantage that could arise from position in a gallery; the gallery having been high up, and with a flat ceiling over it, while the majority of the congregation sat in a "well" beneath, shut in by galleries. The organ could have been properly heard nowhere but in the galleries, as I have had opportunity of noticing in more than one church of exactly similar construction. It is now to be placed in the angle of the ground floor to the north of the chancel. The best place by far would be the centre of the north side (as the church is square there is no choice as to sides), but probably seat-room is wanted here. In the place chosen it will be partially obscured by the columns supporting the roof at the angles, but there will be height enough, and I would unhesitatingly prefer such a position to that of the original gallery. As to the danger of removing the organ, it appears there is nothing of Schmidt in it after all but four or five stops, which perhaps in any case would not last very much longer; with care, no harm ought to happen. The complaint about "the removal of Hawksmoor's galleries" is incomprehensible to me. *Are* they Hawksmoor's? If so, he must have wilfully spoiled a fine interior. As to the superiority of the architectural effect when they are removed, there surely can be no two opinions.

Finally, as an exact case in point, I may mention the organ by Harris, in All-hallows Church, Lombard-street, which has been removed from its position on the screen, and replaced, with modern additions, on the floor at the south side of the chancel arch. It would be difficult to find a church organ that is better placed for effect; so much so that on first hearing it from the other end of the church I was impressed with the idea of its being a much more important instrument in scale and power than it really is. The organ at St. Mary's Woolnoth will not be so advantageously placed, since it will, as before observed, be partially obscured by the columns, and it is a great pity that it cannot be placed in the centre of one of the sides; but I believe any organ-builder would prefer placing a new organ in the position proposed, to building it in the original organ-gallery.

H. H. Statham.

TRAINING *versus* CRAMMING.

Sir,—It scarcely needs apology for addressing the editor of any public journal upon the subject of education, for in that subject every section of the community should be deeply interested, much less need I apologise to you, sir, who have always had views beyond even the very architecture of the *Builder's* sphere,—of that far greater work, the building-up of the State in moral symmetry and grandeur. For no one knows better than you that no State can be stable, nor its influence on civilisation lasting, whose superstructure is not raised upon the solid foundations of a right system of education.

We have in this country, unfortunately, accepted, without sufficient questioning, a system of education which has been handed down to us from remote ages, and are now entreating the men raised in the chief seminaries of the old system to become, *par excellence*, the examiners of the country. And thus our educa-

tional examinations are becoming more and more the tests of memory instead of mental power.

The fallacy of our modern educational system lies in the supposition that a man who commits to memory, let us say, the theories of mechanics, hydrostatics, and pneumatics, &c., is getting a scientific mind. Now, he is doing nothing of the kind, but is, in reality, debilitating his intellect for true scientific study, unless he previously had the right kind of mental constitution, or this had been induced in him by judicious training. The chief business of the modern student would appear to be that of accepting stores of knowledge on trust, and of committing them to memory, in total forgetfulness that all such stores of knowledge were collected and ordered by a very different kind of mental exertion. The modern student's memory, not his mental powers, is alone taxed. It must indeed be evident, on the least reflection, that the feat of committing a science to memory, and the power of either creating or of adding to a science, are two very different and distinct things. Our present education contents itself with making men mere intellectual granaries, the result of which is that we are blinded with a great deal of chaff. To make a nation great, we must till the mental soil, and so qualify it that it may itself be productive, and contribute to the great storehouse of knowledge, till it be itself fruitful in thought, word, and deed.

The present system of education for the most part consists, as we have said, in committing printed matter to memory; it is a mere transfer of book to brain, which does in no way train or educe the native powers and self-helpfulness of the mind,—we must either make the people think, or be content to drift, as a nation, to perdition.

The mind itself may be compared to a machine, to a mill, and the stores of knowledge which have been accumulated as so much "grist." At present no thought is given as to whether the mill be in perfect gearing or not, the cry is ever, "More grist upon the mill!" and there it is heaped, whether the mill be in gear or not, and is never ground; for in the one case the mind is incapable, and in the other it is overburdened and choked. The only signification which we can attach to the modern term "higher education" is, therefore, that of a "taller heap" of information.

All subjects of study require precisely the same faculties of mind to conduct them to their best issues. It may possibly be some undue bias of one or another of the faculties, or other accident, which predisposes the mind to a particular pursuit; but, whatever that accident may be, the pursuit when once adopted must be prosecuted by the whole and balanced powers of the mind. All pursuits equally require that we should be trained to correctly Observe, to firmly Retain, to rightly Reason. To a mind thus constituted book-learning will have its value, but to other men books will be more or less pearls before swine.

Before we can consistently gabble about a higher education, teaching must mean training, not "cramming," the intellect.

W. C. T.

IS AN ARCHITECT A JEWELLER?

Sir,—As a man who is on the house-top can see better what is going on in a crowd than one in the midst of it, so we in the Colonies may, perhaps, be better able to detect the tendencies of architecture in England than an Englishman himself would be. So much so is this the case that we have been tempted to ask the question which heads this letter from an observation of several engravings which have appeared lately in the *Builder* and other professional papers.

In these we have observed a hankering after costliness of material and an attention to minute ornamentation which appears to us to exhibit a deterioration of taste in the profession, for nobility of design and beauty of form have been almost completely ignored in a vulgar desire for precious stones, mosaic, and gilding.

It is the business of a jeweller to manufacture articles of *virtu* with costly materials, but to make a monument or a church an article of *virtu* is a perfect absurdity.

This communication has been more particularly called forth by seeing Sir G. G. Scott's design for a monument to Bishop Wilberforce,* and a slavish imitation of it which appeared lately as a presumed restoration of St. Edward's Shrine, Westminster Abbey. In both it seemed as if the acme of architectural extravagance had been reached. The worst feature in each is the ribbon or twisted columns. A ribbon is generally used to hang something on, but here it is made to *support* a heavy weight. (It may be urged that precedent can be had for the feature, but because a man 600 years ago was foolish enough to design a ribbon column, it is no reason why a sane architect of the present day should copy him.) The weak-kneed looking appearance given to these monuments by these pillars is sufficient to condemn them in the eyes of any unbiassed architect.

Attention has before been called to architects departing from their legitimate business, as in declaring that being able to draw the human figure was the chief end of the architect, while any one who could design stained-glass windows, or draw subjects for fresco painting, had reached the top of the profession. We are now beginning to see the end of all this, for it is a significant fact that, while we have such uncalled-for exuberance of design in small things, whenever a great work for the architect is called for, such as the New Courts of Law, the Berlin Parliament buildings, or the Cathedral for Edinburgh, the meagreness of architectural ability displayed is striking.

Let it not be understood that I object to the highest art being introduced to the shops of the jeweller or the glass-stainer,—by no means; but I do not think it is the business of an architect, as an architect, to furnish their designs. An architect may have what hobby he pleases, but the hobby should not take the place of the business.

In conclusion, it may be all well enough for Americans to sacrifice beauty of form for richness of material, but it ill becomes the British architect to do so: a Venus de Medici in marble is, after all, more valuable in every way than a nude pug-nosed Irishwoman in gold would be.

Halifax, Nova Scotia. And. Dewar.

* See p. 416, *ante*.

RESTORATION.

"Behold! I will make all things new."

Why this rage for "restoration"?
Let art crumble to its doom:
All is yet but adumbration,
A mere gleam of things to come.

All true men the Spirit cherish,
Fools but dying embers crave;
Outward forms are doomed to perish,
Smoulder in this ruthless grave.

Phidian work itself must crumble,
Phidian work yclept "divine,"
Art awhile in effort humble
Patient wait till genius shine.

Art at best's a short-lived treasure,
Fading but to bloom anew,
Burst forth in some fairer measure,
Made in resurrection true.

He who rules can wield His power,
Far surpass what man hath done;
Fairer spring-time, fairer flower,
Wakes to kiss the genial sun.

Worlds and suns are not for ever,
There must be a starless night,
Till once more the clouds shall sever,
Chaos be transform'd with light.

Meter.

THE REMAINS OF STEETLY CHURCH.

Sir,—My heart fairly sank within me when I read in the *Builder* that a scheme is on foot for *restoring* (?) the ruins of Steetly Church, near Worksop, and that the trustees of the late Duke of Newcastle, in whom the property is vested, have intimated their approval of the project, and promised their aid.

Do, for the love of art, and in the interests of thousands of admirers of the picturesque and beautiful, lend your powerful aid to stop this monstrous piece of vandalism: such things are almost enough to make one despair for the future of art in this country.

Some time ago a similar proposal was made with respect to Kirkstall Abbey. You raised your voice loudly and effectually, and, for the present at any rate, that folly is abandoned; for I saw that most charming ruin still standing in all its picturesque beauty only a few days ago.

Steetly Church—or, as it is usually called, Steetly Chapel—is very little known to tourists; it stands quite out of their track, approached only by a country lane in the midst of the lovely sylvan scenery of the Dukeries, about two miles and a half from Worksop. It is a perfect gem of the Early Norman or Romanesque period. It is very small, a little over 50 ft. long; simply a nave, with apsidal eastern termination. The outer walls are quite plain, with the exception of some small round-headed windows and a most charmingly-worked string-course, that peeps out here and there through the ivy, which otherwise entirely clothes the exterior walls. There is also a small round-headed, once richly-carved, doorway at the south-western extremity of the nave. It is roofless, with the exception of the apse, which is still covered with stone vaulting; but the interior is most beautiful, the carvings of the capitals of the pillars, especially those of the apse, are fully up to the standard of the best work of the time,—exceedingly rich and graceful, although, of course, quaint in style; made up of a profusion of intricate foliage, figures, and grotesque animals intertwined.

The date of the church is the end of the eleventh century, and it is referred to in Parker's Glossary. The neighbourhood is very thinly populated, a few farm-houses and labourers' cottages scattered at wide intervals. For all practical purposes, a small preaching-room would do as well, and this charming Mediæval relic might be rescued from the tender mercies of the restorer, and spared to the artist, archæologist, and lover of the beautiful.

G. W.

LLANFON CHURCH, NEAR BALA, NORTH WALES.

The old parish church having been in such a dilapidated condition as to be incapable of repair, has been pulled down, and a new church erected on the same site. The present building is not quite so long as the ancient one, but is more than sufficient for the requirements of the parishioners (several district churches in the neighbourhood having been built within the last few years). The total accommodation is for 154 worshippers. In plan, the building consists of a nave, 42 ft. long, and a chancel, 26 ft. 3 in. in length, both being 21 ft. 3 in. wide, and under the same unbroken roof. At the west end is a tower, 10 ft. 6 in. by 9 ft. 6 in. internally. On the north side of the chancel is a vestry, 13 ft. 6 in. by 8 ft. It has been the aim of the architect in designing the present church to recall to some extent the old building, improving the design by such means as were possible: hence the nave and chancel under a continuous roof, and the saddleback tower,—of loftier proportions, however, than the old one. A comparatively modern screen formerly divided the chancel from the nave; but during the recent works a most interesting discovery was made of the lower portion of the ancient rood-screen,—a charming work of probably late sixteenth century, boldly and beautifully carved and moulded. It was determined to construct a new upper portion to it, designed so as to harmonise with the old part. The walls are built of rough local limestone, with dressings of Wrexham freestone. As far as possible, the former has been used for quoins also to the outer arches of the nave windows, and for some of the plinths. Externally the roofs are covered with Portmadoc slates, with Wrexham stone ridges. Internally are barrel panelled wooden ceilings. The floor of the nave and tower is paved with adamantine clinker bricks (procured near Stamford) banded and bordered with Festiniog slate. The pulpit and font are of Box-ground stone. The nave windows are glazed with cathedral glass of different shades, intermixed with clear white glass. All the chancel windows are filled with painted glass, by Messrs. Lavers, Barraud, & Westlake. The church is heated by one of Porritt's underground stoves. The reredos is of Corsham Down Bath stone. The builder was Mr. David Roberts, of Bala; the architect, Mr. Edmund B. Ferrey; and the cost of the work will be rather over 2,000*l*.

Monument to John Wesley in Westminster Abbey.—The London correspondent of the *Scotsman* gives some particulars of the proposed monument to Wesley in Westminster Abbey. He says that the figures embrace portraits of all the presidents of the Wesleyan Conference from the time of Wesley downwards. The cast was completed a long time ago, but the further progress of the work has been interrupted by the departure of Mr. Adams, the sculptor, for India.

MILTON CONGREGATIONAL CHURCH, GRAVESEND.

This building, erected from designs and under instructions of Mr. J. Sulman, has lately been completed by the treatment of the interior in colour, under the same superintendence. The ground of the ceiling is a pale silver grey, each panel ornamented with bands and lines in a deeper self-hue, the upper panels having a disconnected border running through; the lower panels are treated with a continuous and foliated border running from end to end of the church in self colourings. The walls are of a pale umber grey, with a frieze running from end to end, the ground of the latter being a pale chrome hue, and the ornamentation being in an Etruscan brown. The gallery line of the nave is marked by a band of colour the width of the recess; and the gallery fronts are of the same colour ground as the frieze. This is decorated with a patera form, enclosed in lines connecting each patera, the colours being brown and sage green. The underspace of the wall colour is lined out in a tiled form, with a deep brown dado beneath, shoulder high, and finished in varnish.

The work was executed by Messrs. Phillips & Son, from the designs of the architect.

THE SOCIETY OF ARTS.

The following arrangements for the Wednesday evenings before Christmas have been made:—

November 17th.—Opening Address, by Lord Alfred S. Churchill, chairman of the Council.

November 24th.—On the Registration of Trade Marks, by Mr. H. T. Wood, B.A.

December 1st.—On the Legislative Enactments requisite for Safe Conduct of Sewage Grounds, by Mr. Alfred Smee, F.R.S.

December 8th.—On the Mode of Levying the Sugar Duties in France, and its Influence on the Sugar Industries of Great Britain, by Professor Leone Levi.

December 15th.—Health, Comfort, and Cleanliness in the House, by Mr. Thomas Blashill, A.R.I.B.A.

December 22nd.—On a Method of Producing Pure Charcoal Steel directly from the Ore, by Mr. Henry Larkin.

A series of lectures will be delivered on Friday evenings in December, January, and February, on the subject of "Unhealthy Trades," by Dr. Richardson.

METROPOLITAN DRAINAGE ACT.

At the Greenwich Police-court, Mr. W. J. Humphreys, of Rotherhithe, appeared to a summons taken out at the instance of the Vestry of that parish, charging him with neglecting to comply with an order made upon him, in April last, to connect drains of certain premises with the main sewer, by which he had incurred a penalty of 5*l.*, or 40*s.* a day during the continuance of such neglect.

In September, 1872, the consent of the Vestry had been given to the defendant to construct temporary drains for premises about being erected, the plan submitted containing proposal for a cesspool, and in the following month a fee of 1*l.* 4*s.* 6*d.* was paid to the Vestry for a 6-in. junction with an old existing sewer. A new main sewer had been constructed within 60 ft. of the property in question, and it was now sought to make the defendant remove the drains he had laid down, and to replace them with others of larger dimensions.

Mr. Webb, for the defendant, said that it was contended that the drains already laid down were sufficient for permanent sewer, and that they were not only of 6 in. diameter, as allowed for temporary drainage, but that pipes of 9 in. and 12 in. diameter had been laid, and a junction of 9 in. diameter made in an old parish sewer, which was said to have its outlet in ground now forming part of Southwark Park. It was also denied that any cesspool or an excavation as "a receiver" had been in existence on the property.

Mr. Balguy held that the defendant had acted wrongly in putting in permanent drainage instead of temporary drainage, for which alone he had received the sanction of the Vestry, in contemplation of a main sewer not existing at the time, and it was then arranged that the proceedings should be adjourned for a month to allow of the present drainage to be diverted into the new main sewer, at the expense of the defendant.

CEMETERY COMPETITION, TAUNTON.

In answer to advertisements, 127 applications were received, and 63 sets of designs were sent in by 49 gentlemen, for the St. James's Cemetery.

The Board have awarded to Mr. Bevan, of Bristol, the first premium; to Mr. Spencer, of Taunton, the second; and to Messrs. Hay & Oliver, of London, the third.

THE ROSOMAN MEMORIAL.

ITCHEN FERRY, NEAR SOUTHAMPTON.

This memorial, just erected in Pear-tree Green Churchyard, is Gothic in character, hexagonal on plan, and stands on a York stone base, about 8 ft. square, and rises to a total height of about 19 ft. The general material is Portland stone. At each angle of the hexagon are piers carried up as buttresses from the base, and having in the upper part carvings in square panels, and terminating in moulded and carved caps. Between the angle piers are arranged, on each side of the hexagon, Sicilian marble panels for inscriptions, having polished granite columns at the sides, with carved caps and moulded bases. Over each panel is a cusped moulded arch under gablets, with carved copings, finials, and crockets. Above the lower portion the sides are carried up sloping inwards till they reach the elaborately worked upper portion, being enriched half way up with carvings in moulded circular panels, two on each face, with horizontal mouldings at the top and bottom of the same. The upper part rises perpendicularly from a moulding running round, and corbels springing from each face of the sloping portion of the memorial. This upper part has panels on each side, with shields in the same, and arches and gablets over. The top is finished with a circular spirelet, surmounted by a carved finial. On the west side of the plinth is the following inscription:—"This monument was erected by the wish of R. H. Rosoman, to the memory of his dear wife, father, mother, and other relatives." Three of the panels contain the name, date of death, and age of the various members of the family, who are interred in the vault beneath. The monument is one of the largest and most elaborate in this part of the country. The work has been executed by Messrs. Dacombe, of the New-road, Southampton, from the design of Mr. Chas. A. Monday, full-size drawings having been given for every part. The cost of the memorial was nearly 250*l.*

THE SOUTH METROPOLITAN TEMPERANCE HALL.

The new building in Blackfriars-road bearing the above-named designation, which has been in course of erection for some months past, is fast advancing towards completion. It is situated between the Peabody-buildings and the Surrey Theatre, and has a conspicuous frontage to Blackfriars-road of about 70 ft. in length. It is in the Italian Pointed style, with red brick and Portland stone facings, and a free introduction of Mansfield stone in the ground floor portion of the elevation. The great hall is estimated to accommodate an audience of about 1,500 persons. Owing to the peculiar formation of the site upon which the building has been erected, the hall is oval in shape, founded upon a hexagon, with a horseshoe balcony and a spacious platform.

The owners of the building are the London and Provincial Temperance Halls Company, and the architect is Mr. J. H. Swan. Mr. Alfred Deards is the builder. The estimated cost is about 7,000*l.*

CAMBERWELL PUBLIC HALL.

The Public Hall, situated in Camberwell New-road, near Camberwell-green, which has for some months past been in course of erection, is now nearly completed, and will be ready for opening in a few weeks for meetings, lectures, and musical and other entertainments, in anticipation of the approaching winter season. The hall is situated at the rear of the New Surrey Masonic Hall, which was recently opened, and is, in fact, a continuation of that building, although in its internal arrangements altogether distinct from it, with the exception of there being a principal entrance in Camberwell New-road common to both. The Public Hall is 70 ft. in length, in addition to a stage platform at the north end, 30 ft. in depth, making the entire length of the building 100 ft. It is 40 ft. in width, and the height to the lower part of a coved cornice and ceiling, is 25 ft.

In addition to the principal hall on the street level, there is also a lower hall of similar dimensions in the basement, which is intended, when necessary, to be utilised for public meetings and other general purposes. Simultaneously with the erection of the Public Hall, the principal architectural feature in the Masonic Hall is also in progress. This consists of an octagonal tower and a dome, over the main entrance, 50 ft. in height. With the exception of the zinc covering over the dome, this portion of the structure has been completed during the present week. The capacity of the hall is equal to an audience of 1,500.

The architects are Messrs. Pain & Clark, and Mr. Oliver, of Camberwell, is the contractor.

BUILDING IN CAMBERWELL.

The third and last portion of the building estate lying to the east of the Herne-hill-road, Cold Harbour-lane, and immediately adjoining St. Saviour's Church, consisting of about ten acres, has recently been handed over to the builders, and building operations are now in active progress upon it.

It may be recollected that the whole estate of about eighteen acres, divided by the South London Railway and the Herne-hill-road into three portions, was purchased some few years ago, by the Government, as a site for the erection of a convict prison, but a strong opposition caused the scheme to be abandoned, and the land was again disposed of, and eventually devoted to building purposes.

The designs from which the estate was laid out, were furnished by Mr. J. William Stevens, of Camberwell, and included the formation of eight new roads, and the extension of three existing ones, and provided space for the erection of 380 houses, a large number of which are now being rapidly proceeded with, some being already occupied.

The drainage and road-making works have been executed by Mr. Mayo, of Brixton.

VARNISH.

Sir,—I have just noticed your correspondent's ("Quercus") inquiry about varnish for out-door work, in which he states (18th September) that he has "tried several on doors and window-frames, but none of them will stand." Now "Quercus" has either employed bad varnish or unsuitable varnish; of the former there is a great deal in the market which is sold cheap to persons who make price the first and durability the second consideration. In this case his remedy is to go to a respectable varnish-maker and pay a fair price for a good article. It would seem invidious to mention names, but I would recommend the two largest houses, say Mander's or Nobles & Hoare's. But possibly "Quercus" has made the not unusual mistake of employing a hard varnish intended for inside work, instead of an elastic varnish suitable for withstanding the effects of the weather out of doors.

One thing is certain, that varnish may be obtained which will last for years exposed to all weathers.

"Quercus" is not very explicit whether the work alluded to is grained oak or varnished on the bare wood. I have assumed the former, but if he means the latter kind of work, I recommend Mander's "Liquid Filling-up" to be used before applying the varnish, and then put on at least two coats of good out-door varnish.

Pro Bono Publico.

CASES UNDER THE METROPOLITAN BUILDING ACT.

Mr. F. W. Sebby, of Star-lane, North-end, Fulham, was summoned before Mr. Ingham, by Mr. Moseley, district surveyor, for neglecting to comply with an order of the Court to pull down a certain building which he had erected contrary to the Act.

The district surveyor described the building as having been built of wood instead of incombustible materials, and said the defendant had actually erected two other wooden buildings, thereby aggravating the matter.

Mr. Claydon, who appeared for the defendant, said it was only a temporary building for the use of workmen.

Mr. Ingham said the defendant should have applied to the Metropolitan Board at the time for their consent. He fined the defendant 5*l.* and 2*s.* costs.

The defendant was also summoned with respect to a carpenter's shop.

Mr. Claydon said it was only a temporary building.

Mr. Ingham pointed out it was temporary now, but it might become permanent. It was the duty of the district surveyor to interfere. He adjourned the summons to give the defendant an opportunity of applying to the Board of Works for their consent.

The Portsmouth Dockyard Extension.—It is reported from Portsmouth that a serious mishap has occurred on the dockyard extension works. It has been found that No. 12 dock, which cost a very large sum, leaks a good deal, and that considerable time and expense will be necessary to repair the damage.

CHURCH-BUILDING NEWS.

Leinthall Starkes.—On the 15th ult. the old Norman church of St. Mary Magdalene, Leinthall Starkes, was re-opened, after restoration. It is now about twelve months since the work was taken in hand, the building being then in a very dilapidated state. The cost of the restoration is estimated at 500*l.* The architect was Mr. Nicholson, of London; and the builders were Messrs. Ingram & Son, Lentwardine.

Elmham St. Margaret (*Suffolk*).—The church of Elmham St. Margaret has been restored under the direction of Mr. Phipson, F.S.A. The church consists simply of a nave and chancel, west tower, and south porch. The chancel is of the Decorated period, whilst the nave, tower, and porch are of later date. The nave was pewed with high and most uncomfortable pews, and a large west gallery blocked up the tower arch. These have been all removed, the tower arch restored, and the west window opened out. The church has been benched with oak benching, with poppy-head ends. The chancel roof, which is of the wagon-headed type, and had been plastered over, has had the plastering stripped off, and has been boarded and divided into panels by ribs, with bosses at the intersections, and an embattled cornice placed at its springing. An elaborate three-light east window has been inserted. On the north side, an organ-chamber and vestry, in the Decorated style, has been thrown out, and the south porch has been carefully restored. The tower has also been restored, and a small single-light west window, to light the new belfry, inserted. The whole of the works have been carried out by Mr. Grimwood, of Weybread.

Tideswell.—The chancel of Tideswell Church, Derbyshire, was lately re-opened by the Bishop of Lichfield, after restoration under the direction of Mr. John D. Sedding, architect. The church, a remarkably fine one, has long been named the cathedral of the Peak. The south transept has been restored at the cost (2,500*l.*) of Mr. Bower Brown. The roof of the chancel has been completely renewed, and a new bell-turret erected at the junction of the nave and chancel. The windows have been reglazed, and a new pavement laid down composed of Hopton stone and Ashford black marble, with a sparing admixture of green border tiles and red Mansfield stone. The new stall-work is the gift of Mr. Harrop, of Manchester, and the carving of this work is by Mr. Toole, of Bury St. Edmund's, except that some of the figures have been carved by Mr. Wm. Green, of Manchester. There are twenty-six upper stalls, and about twenty sub-stalls. There is also a new carved stone pulpit.

Aberlour.—The foundation-stone of a new Episcopal Church has just been laid at Aberlour. The style is Gothic, and the total length of the building when completed, including the chancel, will be nearly 100 ft., with a width of 39 ft. The height to the eaves of the roof will be 30 ft., and from the base to the top of the roof 50 ft. The plan comprises a nave, aisles, and chancel, with a porch and tower at the south-west angle. The tower, which is square, and battlemented at the top, rises to a height of 60 ft., while the spire springs to a height above the tower of 25 ft., making the total height 85 ft. The nave is divided into five bays by arches supported on columns of polished Peterhead granite. The aisles are comparatively narrow, and will be lighted on each side by four coupled lancets, while the clearstory will be lighted by a series of triple lancets. In the west gable will be a four-light traceried window, 20 ft. in height. The chancel will be lighted by three large lancet windows, with rose-window over. The greater part of the building, including the tower and spire, will be of the red native granite, with freestone dressings, principally from Covesea. No lath or plaster will be used interiorly, the walls both inside and out being of the same red granite. The roof, which is an open one, and the other fittings, will be of red varnished pine. The nave is the only portion of the building yet contracted for. The cost of the nave will be about 2,000*l.*, and the total cost will be 5,000*l.* Mr. Ross, Inverness, is the architect.

Canford (*Dorset*).—Canford parish church was re-opened on the 3rd ult., after restoration from plans by Mr. David Brandon, of London, the sole cost being borne by Sir Ivor B. Guest, bart. Formerly the chancel walls were plastered, as those of the nave now are, and in that condition they had anything but a pleasing effect. The plaster has been removed, and the native red sandstone, of which the walls are composed, is now revealed. The substantial character of the structure is a striking feature, the walls being several feet in thickness. The Norman arches in the walls of the chancel have been carefully preserved. In the south aisle of the chancel there are evidences of the former existence of an armoury; and there is a hagioscope.

Bix (*Henley-on-Thames*).—The recently-erected parish church at Bix, Henley-on-Thames, has been consecrated by the bishop of the diocese, and dedicated to St. James. The old parish church had become very dilapidated, and unfit for public worship. The new church, which is built in a more central part of the parish, is in the Early English style, and was designed by Mr. J. Gibson, of Westminster, and built by Mr. J. Willis, of Nettlebed; it consists of nave, chancel, and north aisle, a vestry being formed by screening off part of the aisle. The patron of the living, the Earl of Macclesfield, has defrayed the whole cost of the erection.

Grahamston (*Falkirk*).—The memorial stone of a new church at Grahamston was laid, with Masonic honours, on the 7th ult., by Sir J. E. Alexander. The church, which was commenced eighteen months ago, is nearing completion. It is in the Early French style of Gothic architecture, and is designed to accommodate 800 persons,—530 on the ground floor, and 270 in the galleries. In the centre of the west or principal elevation is a high-pitched main gable, flanked on either side by a tower and spire. The main tower is on the south side, and rises to the height of 120 ft., the tower on the south side being only 63 ft. high. The main entrances to the church are through these towers. On the east side of the church is the session-house, capable of seating 100 persons. The architect is Mr. T. B. M'Fadyen, Edinburgh, and the contractors for the various departments of the work were:—Mason work,—Mr. J. Gardiner, Falkirk; joiner work,—Messrs. Grieve & Lamb, Edinburgh; plumber work, slater work, and gas-fitting,—Mr. D. Draper, jun., Falkirk; plaster work,—Mr. G. Brownlee, Falkirk, and latterly Mr. J. Miller, Falkirk; smith work,—Mr. T. Tait, Edinburgh; glazier work,—Mr. R. Graham, Castle-street, Edinburgh; stained glass,—Mr. Small, Leith-walk, Edinburgh.

Shawbury.—The parish church of Shawbury was reopened on the 10th ult., after restoration, at a total cost of about 1,000*l.* The chancel was restored at the cost of Sir. V. R. Corbet and Mr. T. Charlton Meyrick, and the work was carried out by Mr. Oliver Jones, of Shrewsbury, the work involved in the restoration of the other portions of the church being executed by Mr. John Powell, of Shawbury, and Messrs. Smith, of Grinshill. The works include the conversion of the old pews into open benches, the restoration of existing windows, and the opening out of others, and the throwing of the area under the tower into the body of the church. The window has been glazed by Mr. John Davies, of Shrewsbury, and the heating apparatus is by Messrs. Rimington, of Skipton. The floors are paved with Maw's & Peake's tiles.

Campsall.—Campsall Church, near Doncaster, was re-opened on the 12th ult., after restoration under the direction of Sir Gilbert Scott. The western doorway has been unearthed and renewed, and its original proportions have been carefully preserved. A new stone figure has been built above the doorway. Both the door fixed here and that in the old porch doorway have been made in imitation of the original Norman doors. The ironwork on the old doors was described by Sir G. Gilbert Scott as "of a very curious and remarkable character." The iron was interlaced in circles, and these, as well as supporting the door, make a neat but unique ornamentation. It is supposed that the ancient doors, which were past repair, were the only couple of their kind existing in England. The western tower has been restored, and the chancel has been thoroughly renewed, the southern wall, which was 20 in. out of the perpendicular, having been reinstated. All the roofs have been newly constructed. The interior walls have been stripped of their whitewash. The whole of the passages have been relaid with red and black Staffordshire quarry tiles, and a new apparatus has been built for heating the church with air. A new font has been added, the gift of the contractors, Messrs. Shillitoe & Morgan; and two stained-glass windows have been placed in the chancel. The total cost of the restoration, exclusive of the chancel, has been 4,330*l.*

Coppenhall.—At a meeting held at Coppenhall on the 19th ult., it was resolved to re-seat the church by substituting open benches for the uncomfortable pews now existing. Mr. Bower, of Nantwich, architect, has been consulted in the matter.

Kimbolton.—The parish church of St. James, Kimbolton, near Leominster, was re-opened on the 13th ult., after restoration. The chancel has been restored at the cost of the Ecclesiastical Commissioners, under the direction of their own architect, Mr. Ewan Christian. The nave and only transept (the south) have been restored under the direction of Messrs. Haddon, Bros., architects, Hereford. The cost of restoring the chancel was about 350*l.*, the remaining works costing about 1,200*l.* The contractor for the whole of the work was Mr. Charles Edwards, of Leominster.

Harkstead.—The church of St. Mary at Harkstead was re-opened on the 14th ult., after restoration. The church consists of a nave, with south aisle, and chancel with a small chantry chapel on the south side, in continuation of the aisle. Amongst other things revealed in the course of the restoration have been two Norman windows, which, along with a door of the same style, were discovered in the north wall of the nave. The chancel was restored eight years ago, and the present restoration, which has been carried out by Mr. Grimes, of Colchester, at a cost of 887*l.*, has been confined to the nave and other portions of the fabric. The font, which is stated to be Norman in date, was restored by Messrs. Chinnock & Co., of Ipswich.

Knighton.—At a meeting of the Hereford Diocesan Church-Building Society, at Ludlow, on the 17th ult., the plans of Mr. S. Pountney Smith for the restoration of Knighton parish church were approved, and a grant made in aid of the work. The cost will be about 1,100*l.*

Havant.—Havant parish church was re-opened on the 13th ult., after restoration under the direction of Mr. Richard Drew, architect, Westminster, Mr. Ellis being the contractor. The cost has been about 4,000*l.* The church, a fine Norman building, has been very extensively renovated, almost the entire tower and the stone roof of the chancel having been absolutely pulled down and rebuilt, and parts of the aisle and transepts having been restored where necessary. The western part remains untouched, the funds not permitting its renovation.

Milton Lilbourne.—St. Peter's Church, Milton Lilbourne, Wilts, has just been re-opened, after restoration. The south wall has been taken down and rebuilt, the tower-arch and west window thrown open, and the old-fashioned pews replaced by open oak benches. The aisle passages have been paved with brick in two colours. The heating is effected by Porrit's apparatus. During the progress of the works there were several discoveries, the most remarkable of which was a "Founder's Tomb," covered up with the north wall. This is now exposed, and paved with encaustic tiles of singular and varied design found in the soil. The restoration was carried out under the direction of Mr. Pearson, A.R.A., by Mr. Randall, contractor, Devizes.

Aldershott.—The foundation-stone of a new church, to be dedicated to the Holy Trinity, was laid at Aldershott on the 16th ult. The church will be in the Early English style, from a design by Mr. Sidney Stapley, the builders being Messrs. Martin, Wells, & Co. It is intended to accommodate about 700 persons. The cost will be about 4,000*l.*

Grosmont.—St. Nicholas parish church, Grosmont, Herefordshire, was reopened on the 19th ult., after partial restoration under the direction of Mr. J. P. Seddon. Built by Eleanor of Provence, Queen of Henry III., under the direction of a French architect, the church partakes largely of the style of that country and period. It is a cruciform structure, consisting of a spacious nave and side aisles, chancel, transepts with parallel aisles, side chapel, and central octagonal tower on massive piers supporting an elegant octagonal spire. The restoration was commenced by the late rector (Rev. W. H. Twyning) and mainly through the munificence of the late Mr. John E. W. Rolls, the chancel, Queen Eleanor's Chapel, and the north transept arch, have been restored, and an approach made to the belfry. The architect estimated the cost at about 3,854*l.* to complete the restoration; and of that sum 1,345*l.* was needed to rebuild the three arches shored up to prevent the fall of the tower and spire, and to restore the transepts. Mr. Clark, of Hereford, carried out the work.

BIRMINGHAM MASTER BUILDERS' ASSOCIATION.

THE annual meeting of the above Association was held on the 2nd inst., at the Midland Hotel, New-street, Mr. J. Moffat presiding. There was a large attendance of members. The report of the committee for the past year was read, and, together with the balance-sheet, was unanimously adopted.

Mr. E. Davies was unanimously elected president for the ensuing year; Mr. J. Moffat, vice-president; Mr. J. Hardwick, treasurer; Messrs. T. Barnsley and W. J. Whittall, auditors; and the following gentlemen were appointed on the committee:—Messrs. W. B. Briggs, J. Webb, J. Horsley, J. Jeffery, J. Garlick, W. Bloore, W. H. Parton, T. Surman, W. Brooks, C. Baker, W. J. Whittall, Andrew, Heal, Stevens, King, Sapcote.

The Secretary (Mr. G. E. Jeffery) informed the meeting that notices for increased wages and certain alterations in the working rules had been received from every branch of the trade. The increase asked for was 1d. per hour by masons, bricklayers, carpenters, plasterers, and seven-eighths of a penny by the labourers. The bricklayers and labourers also demanded that walking time should be allowed to all jobs more than one mile and a half from Stephenson-place, instead of two miles as heretofore, and that such walking time should count from the first mile; also that their wages should be paid at such a time on Saturday as would enable them to get back to the one-mile distance by one o'clock. The masons asked that work should terminate at twelve o'clock on Saturdays. There were other minor alterations.

After some discussion the matter was referred to the committee. Cordial votes of thanks were given to the late president, Mr. J. Moffat, for his two years' valuable services; to the vice-president, officers, and the secretary. After the meeting the members of the Association and their friends, numbering ninety, dined together at the Midland Hotel.

LEGAL.

Alleged Negligence by a Contractor.—In the Queen's Bench Division of the High Court of Judicature, on the 4th inst., before the Lord Chief Justice and Justices Mellor and Quain, an application was made by Mr. Powell, Q.C., in the case of Purnell v. The Great Western Railway Company and Harris. Mr. Powell described the case as unique of its kind. The action was for personal injuries, tried before Mr. Baron Pollock, at Monmouth, when the jury returned a verdict against the railway company, damages 250*l.*, and in favour of the defendant Harris. He now moved for a new trial, on the grounds of misdirection, the improper rejection of evidence, and against evidence. Purnell was the foreman of a person named Murphy, who had some saw-mills at Usk, and Harris was a contractor at Gloucester. He had finished a contract for the repairs of a bridge and viaduct at Usk, but the viaduct, requiring strengthening, it was arranged that he should do it, the company finding the timber. The negligence complained of was that in throwing the timbers over the viaduct one fell on the plaintiff's foot and seriously injured it. At the end of the plaintiff's case he (Mr. Powell) submitted, on behalf of the railway company, that no case had been made out against them, in which the learned baron at the time concurred, but did not dismiss them from the suit; but when Harris and his servants were called they threw all the blame on the company's servants, and the result was a verdict for 250*l.* against them. Rule granted.

Wages Disputes.—At the Wakefield Court-house, on the 29th ult., Mr. William Sykes, builder, Rothwell, was summoned by a bricklayer, named George Mason, who had been in his employ for about seven months, for 7s. 7d., which he alleged was due to him for fourteen hours' work at 6½d. per hour. Thomas Ward, another bricklayer, late in Mr. Sykes's employ, summoned him for 9s. 11d., for fourteen hours' work at 8½d. per hour. The men said that as they could not have regular work with Mr. Sykes they left his service and got work elsewhere. They gave their master no notice, as there was no agreement between them to that effect. The defence was, that the men ought to have given a week's notice, but finding that they could get a farthing more per hour elsewhere, they left a job standing, and persuaded their labourers to go with them. The Bench told the two men they ought to have given a week's notice before they left Mr. Sykes's employ, and they dismissed the summonses, and ordered the men to return to their work.

Breaches of Building Regulations at Newcastle.—At the Newcastle Police-court, on the 2nd inst., Robert Harrison, of Jesmond, was charged, under section 68 of the Town Improvement Act, with unlawfully beginning to erect a brick manufactory at Byker, without giving notice to the corporation of his intention to do so, and also with continuing the offence for two days after the expiration of twenty-four hours from the service on him of a written notice in that behalf by the corporation. The magistrates fined the defendant 1*l.*, and 10s. for each of the two days he neglected to comply with the order.——Thomas Wilson Harrison, of the firm of Messrs. Harrison & Horn, was also similarly fined for proceeding with two houses at the junction of Tynemouth and Addison roads, before the plans were approved of.——John Atkinson, charged with not putting proper drains in some new houses belonging to him at Byker, was only ordered to pay costs, he having complied with the order of the corporation at once.

Hardings v. *Southborough Local Board.*—In the Chancery Division of the High Court of Judicature, on the 6th inst., application was made for an injunction to restrain the Local Board of Southborough from continuing to allow the sewage issuing from certain tanks erected by them to flow past the plaintiff's farm so as to create a nuisance. Vice-chancellor Hall granted the injunction.

The Daresbury Reredos Case.—The Chancellor of the Diocese of Chester has given judgment in this case (to which we recently referred). The petitioner was Mr. William Charles Jones, of Daresbury, and the defendants the Rev. W. H. Spencer, incumbent of Daresbury, and Mr. Joseph Priestley, churchwarden. The Chancellor found that the emblems of Christ's Passion in the reredos, consisting of the scourge, the hammer, the pincers, the crown of thorns, the ladder, the reed and sponge, and lamb and flag in the centre, were not unlawful, idolatrous, or inconsistent with the doctrines of the Reformed Church of England. It might, he said, be far more plausibly argued that the cross was a far more dangerous article than any of these, as it was the chief and central emblem of the Passion. Had the incumbent and warden applied at first for a faculty to put up such a reredos it would never have occurred to him (the Chancellor) to refuse them on the ground that the figures on the reredos were open to abuse; and, indeed, the objection of the petitioner himself seemed to have been an afterthought. He must reject the prayer of the petitioner for the removal of the reredos, and decree a confirmatory faculty in terms of the prayer of the defendants on act of petition. With regard to costs he said that defendants must pay all costs up to the 29th of April, when they applied for the confirmatory faculty.

CONCRETE.

SIR,—I fear that Mr. Tall in his letter to you, inserted in your issue of the 30th ult., will convey a wrong impression as to my opinion of concrete.

I have always thought it to be a good material for building purposes. I objected to it solely on the ground that, as district surveyor, I had no power, under the Building Act, to allow it to be used in the construction of walls. That I was not far wrong may be proved by the fact that no concrete walls can be built without a license from the Metropolitan Board of Works. HENRY JARVIS, D.S.

DISTRICT SURVEYORS AND PUBLIC BUILDINGS.

SIR,—In your impression of last week is an article upon "District Surveyors and Builders," from a district surveyor's point of view, and as my name is brought prominently forward, I am sure, with your usual courtesy, you will allow me space to give a builder's view of the situation.

In the case of the district surveyor of Camberwell against my firm, I consider that I fully recognised the duty which I owe to any public officer with whom I may be brought into contact, viz., to render him all the assistance which he can fairly claim from me. In this instance I offered the district surveyor every facility for examining the drawings upon the site. I had no authority to allow the drawings to go out of our possession, or even off the site, as I informed Mr. Jarvis in writing, and referred him to the architect, Mr. A. W. Blomfield, who would, I have no doubt, upon application, have given Mr. Jarvis the necessary permission to examine the drawings at his own office.

No such application was made, and I am quite willing to leave to the judgment of your readers the policy of Mr. Jarvis, to use the mildest term I can, in applying to a magistrate for power to compel us to send him plans which he might have obtained by writing for.

Surely, sir, common-sense points out that the proper mode of constructing a public building should be settled before the contract is entered into with the builder, and he ought not to find out, after having entered into arrangements to carry out the work, and probably getting expensive plant and materials on the site, that the works he contracted to do are not allowed to be executed.

As to whether a district surveyor should have the power to disapprove the mode of construction adopted by a properly qualified architect, I will leave the profession to decide. It seems to me that the mode of constructing every public building should be settled by some properly constituted authority competent to decide the matter, but I submit that it ought not to be left to builders to find out whether architects or district surveyors are right or wrong in matters of construction.

In conclusion, I must demur to your application of section LXI. of the Building Act to the present case, or, in fact, to any building to which the rules of the Act apply. This section should be read with its context, section LVI., which applies to iron buildings or any other building to which the rules of the Act are inapplicable, and it is a question whether even the Metropolitan Board of Works itself has any powers under the Act to demand plans of any building to which the rules of the Act do apply.

T. H. ADAMSON.

GRAPES IN DECORATION.

YOUR correspondent "F. S. A." asks this question:—"Is it because this great country is ruled by drink that grapes must always be used as the principal object of ornamentation"?

An appropriate answer I think would be—No! but because in the Holy Scripture the grape and the vine have unusual prominence, as one of the most beautiful and beneficial gifts (properly used) of a merciful God: as also as being in their form and growth, in fruit and foliage, one of the most graceful and elegant of Nature's works. SENEX.

New Breakwater at Fraserburgh.—The foundation stone of the new breakwater at Fraserburgh was laid on the 23rd ult. by Lord Saltoun. The improvements in the harbour mainly consist in the lengthening of the present breakwater to over 3,000 ft. A serious accident occurred to mar the festivities of the day. The lorry upon which the king of the carters was seated, while being driven up Cross-street at a rapid rate, capsized, precipitating those on it to the street. Four men were injured.

STAINED GLASS.

Kimbolton.—The south transept window of Kimbolton Church, near Leominster, has just been filled with stained glass by Messrs. Heaton, Butler, & Bayne. The subject is, "Christ Blessing little Children."

Edinburgh.—Another of the series of stained-glass windows for St. Giles's Cathedral has just been completed. It is the gift of Mr. William Law, who was Lord Provost of Edinburgh from November, 1869, to November, 1872. The three upright lights are divided by transoms, and terminate with flowing tracery. In the upper lights is represented "The Last Supper of Our Lord"; and in the three lower lights are, "Our Lord's Agony in the Garden," "His Betrayal," and "Bearing the Cross"; while in the tracery are angels bearing scrolls containing the text, "As often as ye eat this bread and drink this cup, ye do show the Lord's death till He come." The glass is by Messrs. James Ballantine & Son, and has been executed under the direction of Mr. Herdman, R.S.A.

Downham.—A stained-glass window has just been completed in the north aisle of the parish church, Downham, in memory of the late Mrs. G. W. Mills. The window consists of three lights, with traceried head, containing six angels in adoration. The centre light represents the centurion entreating our Lord to heal his servant. He is in the uniform of a Roman soldier, and in the attitude of earnest supplication. The subject of the left-hand light is "The Raising of Jairus's Daughter"; that of the right-hand light, "The Cure of Peter's Wife's Mother." The window was supplied by Messrs. Cox & Son, Strand. The masonry and execution of the work were entrusted to Mr. W. Laurie.

Bradfield.—Two of the windows in Bradfield Church have just been filled with stained glass. The west window has two lights, and contains figures of St. Nicholas (the patron saint of the church) and St. Cuthbert. The east aisle window contains three lights, depicting "The Adoration of the Magi." The windows have been designed and executed by Mr. W. F. Dixon, of London.

Newnham.—A benefactor has presented a painted glass window for the east end of the chancel of Newnham Church, Gloucestershire. It is by Messrs. Bell & Son, of Bristol, and consists of three lights with geometrical tracery; in the centre is the figure of Our Lord as the Good Shepherd, and in the sides those of St. Peter and St. John, in panels of canopy work with grisaille basements. In the larger tracery-pieces are angels with scrolls.

Tideswell.—The east window of Tideswell Church, Derbyshire, has just been filled with stained glass, by Messrs. Heaton, Butler, & Bayne. The subjects are, the Kings of the line of David, the Annunciation, our Blessed Lord in Glory, and, in the outer lights, the History of St. John the Baptist, after whose name the church is dedicated. The tracery lights, very numerous, are also full of subjects.

Bere Regis.—Messrs. Hardman & Co. have in hand several stained-glass windows for the parish church of Bere Regis. Seven windows in the chancel and the three easternmost windows in the south aisles, are the munificent gift of Mrs. Egginton. The windows in the chancel will represent the history of the Passion of our Blessed Lord; those in the south aisle His Life in Glory. The subject of the east window in the aisle is taken from Rev. v. The armorial window, which is *sui generis*, will be an heraldic history of the possessors of Bere Regis from the earliest time, including among the number King John, Simon de Montfort, the Tuberville family, and the family of Erle-Drax, down to the present possessor of the manor.

SCHOOL-BUILDING NEWS.

Beaminster.—New elementary schools have just been built in High-street, Beaminster, the contractors being Messrs. D. Hann & George Gale, and Mr. J. M. Allen, of Crewkerne, the architect.

Low Moor.—On the 16th ult. was opened a new school, built by the Low Moor Iron Company, to accommodate the children living near the new works. The new building is erected in finely-pressed brick, with stone dressings, and was designed by Mr. J. M. Woodcock, architect and manager at the works. It is intended to supersede a smaller erection near at hand, and has cost about 400*l.*

Sowerby.—The corner-stones of new schools in connexion with Providence United Methodist Free Church, Sowerby, were laid on the 2nd ult. The cost will be 1,300*l.*

Halifax.—The Hanover new schools were opened on the 17th ult. Mr. H. J. Paull, of Manchester, is the architect, and the cost has been about 4,500*l.*

Lockerbie.—On the 18th ult. new schools were opened at the Townhead of Lockerbie. The buildings, which are Gothic in style, are intended to accommodate 600 pupils, and cost about 4,500*l.*, exclusive of site. Mr. Barbour, of Dumfries, was the architect.

Books Received.

The Young Lady's Book: a Manual of Amusements, Exercises, Studies, and Pursuits. By Mrs. Henry Mackarness. London: Geo. Routledge & Sons.

In a handsome volume, of close upon 500 pages, Mrs. Henry Mackarness has industriously piled up such a mass of instructive, suggestive, and withal entertaining matter, that the "young lady," whatever her age, must be very hard to please, very dense, or very highly-cultivated indeed, if she do not find something to please her and more to be thankful for. "What to do and how to do it," heads the first section, and gives the key-note, including chapters on Nursing the Sick, Teaching, Working for the Poor, Cooking, Domestic Economy, and so forth. Home Studies, another section, comprises Thoughts on Reading, Music, Drawing, Costume, Architecture (a very interesting chapter, but insufficiently illustrated), Seaweeds, and Conversation. In-door occupations, Section iii., includes Making Collections, Illumination, Wood Engraving, Wood Carving, Cameo Cutting (which, we hope, will set a number of young ladies to work), Mosaics, Needlework of all kinds, Knitting, Netting, Crochet, Lace, and Embroidery. Then come sections on out-door occupations, in-door amusements for the little ones, fun for Christmas, and such heaps of games, riddles, quotations, charades, and receipts as will last the most ravenous little group many a long night. The section on "Work," *par excellence*, is, of course, a long one, and in it the authoress has been materially helped by Miss Austin and Miss Ingelow, as she has been in other departments by equally kind and able hands; while 270 engravings and a few coloured plates enliven and illustrate the text.

Mrs. Mackarness says in conclusion,—"Many things in this book are suggested by which a living may be obtained, but that has not been its object: it has been to give hints and instructions to the young for a wise occupation of their time, a sensible alternation of useful work and healthful play; and earnestly trusting this aim has been secured I take my leave, closing the book with a list of works which are connected with the subjects contained in it, which may be found useful for those who desire further information; and I have added to the list the names and publishers of some little volumes which have been found favourites among the little ones, and which would answer for reading aloud or giving as prizes."

The tone of the book, we need hardly say to those who know Mrs. Mackarness's other works, is genial and good, full of evidence of that sympathy with the young which the young quickly discover and appreciate. We shall be greatly surprised if there are not many editions of "The Young Lady's Book."

Book-keeping for the Class-room and the Counting-house by Double and Single Entry. By John Dalziel Maclean. London and Glasgow: Collins, Son, & Co.

The fact that this little book has reached a sixth edition gives evidence that it meets a want. The first three parts treat of double entry. Part IV. gives a modification of single entry, applicable to a retail business; and Parts V. and VI. consist of questions for solution and information on commercial forms.

VARIORUM.

Messrs. Chapman & Hall have just now issued a work to which circumstances give more than ordinary interest,—"India and its Native Princes: Travels in Central India and in the Presidencies of Bombay and Bengal." By Louis Rousselet. Revised and edited by Lieutenant-Colonel C. Buckle, and containing 316 beautifully executed illustrations and six maps. It is a very fine volume apart from accidental interest, and we will take an early opportunity to give an account of it; as we shall also of a beautiful book by M. Paul Lacroix, published by the same firm (Chapman & Hall), "The Eighteenth Century: its Institutions, Customs, and Costumes. France, 1700—1789." By Paul Lacroix. Translated from the French by Mr. C. B. Pitman. This is illustrated by twenty-one chromo-lithographs and 351 wood engravings, and forms a volume interesting as well as elegant;—so interesting, indeed, that when we began to read it we found it difficult to leave off.——"Masters and Men: their Duties and Responsibilities," is the title of a paper read by Mr. H. J. Snell, at the Artisans' Institute, St. Martin's-lane, and now published by the author at 4, Grafton-street, Tottenham-court-road. It is a sensible production, and may be read by both classes with advantage.

Miscellanea.

Mr. Ruskin on Himself and his Critics. Writing in *Fors Clavigera*, Mr. Ruskin says:—"It is quite possible for the simplest workman or labourer for whom I write to understand what the feelings of a gentleman are, and share them if he will, but the crisis and horror of this present time are that its desire of money, and the fulness of luxury dishonestly attainable by common persons, are gradually making churls of all men; and the nobler passions are not merely disbelieved, but even the conception of them seems ludicrous to the ordinary churl mind; so that, to take only so poor an instance of them as my own life—because I have passed it in almsgiving, not in fortune-hunting; because I have laboured always for the honour of others, not my own, and have chosen rather to make men look to Turner and Luigi than to form or exhibit the skill of my own hand; because I have lowered my rents, and assured the comfortable lives of my poor tenants, instead of taking from them all I could force for the roofs they needed; because I love a wood walk better than a London street, and would rather watch a sea-gull fly than shoot it, and rather hear a thrush sing than eat it; finally, because I never disobeyed my mother, because I have honoured all women with solemn worship, and have been kind even to the unthankful and the evil; therefore, the hacks of English art and literature wag their heads at me, and the poor wretch who pawns the dirty linen of his soul daily for a bottle of sour wine and a cigar talks of the 'effeminate sentimentality of Ruskin.'"

A Waterloo Monument for Berlin.—In the Belle Alliance Platz, at Berlin, are to be erected, in the spring, four marble groups, representing the victors in the battle of Waterloo, which in Prussia goes by the name of Belle Alliance. Those victors are England, Prussia, the Netherlands, and Hanover. The four groups were designed thirty-five years ago; but, partly through the death of the artist charged with their execution, Herr Fischer, partly through other causes, the erection has been delayed. The four pedestals, measuring each 6 ft. in height, and executed in grey Silesia granite, have been lying ready for thirty-five years unpolished. They are now to be polished. Two of the groups, those representing England and the Netherlands, were modelled in gypsum, by Herr Fischer, a long time ago, after which he died. They measure 7 ft. in height. England is represented with a panther as her guardian beast, the lion being in this instance allotted to the Netherlands. The remaining two groups were modelled by Herr Walger. All are now being executed in marble by Herr Franz.

Indian Memorials of the Prince's Visit. The Rajah of Vencatagherry intends to celebrate the visit of the Prince of Wales to India, not only by a series of festivities, but also by opening a poor-house in his town and a building where the lame, the blind, and the aged will be fed. The institution will be endowed and an inscription on the front of the edifice will announce the fact that it was opened, and will be continued for ever, in honour of the Prince. There is also a talk among the Hindoos of erecting a temple in the holy city of Benares to commemorate this tour of the future Emperor of Hindostan through the land over which it is expected that he will one day rule.

The Proposed Thames Tunnel.—Mr. Barlow, C.E., has just had an interview with the Works Committee of the Limehouse District Board of Works with reference to the question of the communication between the north and south of the Thames, by means of a tunnel under the river. Mr. Barlow, in explaining the nature of the proposal, said the tunnel would commence in the East India-road, and, by way of Robin Hood-lane, reach the river in the vicinity of Blackwall-stairs. The tunnel would terminate on the southern side of the Thames, below Greenwich Hospital. As to the gradients, they would be only at the very moderate rate of 1 in 40. Having heard Mr. Barlow, the Committee of Works passed the following resolution:—"That this committee are of opinion that the proposed tunnel would be a great benefit to the public, particularly to the eastern part of the metropolis, and the scheme therefore deserves the support of the Board." The Board endorsed the resolution of the committee, and agreed to memorialise the Metropolitan Board of Works in support of the scheme.

Asphalte Paving.—The Brunswick Rock Asphalte Paving Company have, during the last three months, been engaged in paving, under the direction of Mr. J. F. Thorne, the surveyor to the Plumstead Board of Works, the following streets, viz.,—Leyland-road, East Down Park-road, St. Stephen's-road, Belmont-road, Granville-road, St. Stephen's-terrace, and Brunswick-place, Blackheath village. They are now paving the whole of Lawn-terrace, from end to end, in all about 44,914 superficial feet. In addition to this they have laid on the outskirts about 9,090 ft., making a total of 53,923 superficial feet. Most of this pavement has been laid with 1-in. thick Brunswick Rock asphalte, and 3 in. of concrete, made from Thames ballast and the Burham cement. The work has been carried out under the direction of Mr. W. Hirst, the company's manager; G. J. Boultwood, and his assistant, W. Coomber, the foreman. The company have the engagement for laying their asphalte in the London and St. Katharine Docks.

A New Reservoir.—The Rev. Andrew A W. Drew, M.A., incumbent of St. Antholin's, Nunhead, writes:—"We who are residents in the neighbourhood of Nunhead are at the present time suffering under a species of panic in consequence of the action of the Southwark and Vauxhall Water Company with regard to the vast new reservoirs which have lately been built on the top of a hill overlooking our houses. We in the first instance protested against these reservoirs being built at all in the midst of a densely populated district, but our protest was of no use. The reservoirs have been building for the last three years, and are now almost ready for the water to be let in, while a very uneasy feeling prevails in the neighbourhood as to the safety of these structures. Early in the history of the main reservoir it became known that a serious landslip had occurred under one corner of it, which rendered it necessary to underpin the foundation, and to erect a massive wall, while the existence of springs of water beneath made the operation of doubtful value."

Birmingham House Painters' Protection Association.—On the 4th inst. a public meeting, convened by this Association, was held at the Public Office, Moor-street. Mr. H. Vaughan, who presided, said there was a large number of house-painters in the town who were not trade-unionists. The meeting was called with the view of trying to persuade those men to join the Society, which would materially benefit them. When the Society was formed, ten years ago, the wages of house-painters were from 22*s.* to 24*s.* per week. The Society had succeeded in raising the wages to 33*s.* per week, and considerably shortening the hours. Recently Cheltenham had formed a Society, and Gloucester was about to do likewise, and in the spring they would most assuredly get an advance of wages. The societies were not only formed to raise their wages, but to elevate their social position. A resolution in support of the object of the meeting was unanimously adopted.

The Middle Level Commissioners.—At a meeting, on the 4th inst., of the Middle-level Commissioners, held at March, the contract of Mr. Webster, to build a new sluice for 59,807*l.* was accepted, and it was decided to borrow 55,500*l.* The meeting considered that the manner in which the grounds had been drained during the recent floods was a matter of congratulation.

The Flooding of a Workhouse Basement. At the meeting of the Lambeth Board of Guardians, on the 3rd inst., the clerk read the following letter from Sir J. W. Bazalgette, engineer to the Metropolitan Board of Works:—"With reference to your letter of the 25th of October, I beg to inform you that upon investigation it is found that the basement-floor of the new Lambeth Workhouse has been constructed at a considerable depth below the level of the water which is in the sewer on occasion of heavy rainfall, and hence result the floodings of which the guardians complain. As a remedy I would suggest that the guardians should have self-acting tide-flaps fixed at the mouths of their drains, so as to keep out the flood waters." We may add that the workhouse has only been built about four years. It will be advisable to obviate this flooding in the basement of the new infirmary about to be erected on land adjoining the workhouse.

The Chapel, Charterhouse.—The oak panelling at the Communion end of this church has received attention in the shape of an alteration and addition. The old panels over the communion-table have been removed, and in their stead a decorative frame is introduced, to enclose a picture in water-colour, a copy of "The Entombment," by Franchia, now in the National Gallery. The old panels on each side of the picture have been removed, and large ones substituted, with carved details of supporting pilasters, with decorative heads. The details are of corresponding character to the rest of the old work in the chapel. Horizontal panels are introduced above and below the picture, the upper one having the text "I am the Resurrection and the Life," and the lower one being enriched with an inlay and suitable carved details. The work was executed by Messrs. Phillips & Son, under the instructions of Mr. E. Blore, architect.

A New Cement.—A French chemist is said to have succeeded in preparing a mineral compound, which is stated to be superior to hydraulic lime for uniting stone and resisting the action of water. It becomes as hard as stone, is unchangeable by the air, and is proof against the action of acids. According to the *American Gas-Light Journal*, it is made by mixing together 19 lb. sulphur and 42 lb. pulverised stoneware and glass; this mixture is exposed to a gentle heat, which melts the sulphur, and then the mass is stirred until it becomes thoroughly homogeneous, when it is run into moulds and allowed to cool. It melts at about 248° F. and may be re-employed without loss of any of its qualities, whenever it is desirable to change the form of an apparatus, by melting at a gentle heat, and operating as with asphalte. At 230° F. it becomes as hard as stone, and preserves its solidity in boiling water.

Jedburgh Abbey.—The Jedburgh Town Council have unanimously resolved to have the three trees at the south-west side of the churchyard cut down, so as to show the nave of the Abbey with proper effect. Over the great western doorway there was formerly a passage running between the spiral stairs at the corners of the gable, but this was built up probably about a hundred years ago, when considerable alterations were made in the old parish church, which occupied the west end of the nave until April last. This passage has again been opened. In removing the modern masonry connected with the old church, many beautiful carved and moulded stones have been discovered. The rubble building between the arches of the triforium on the south side of the nave is at present being removed, and when finished the view from this side will be greatly improved.

Chester Cathedral Eagle Lectern.—The lectern just completed for Chester Cathedral is of a large size, executed in polished brass. The eagle is represented with a dragon beneath its feet, suggesting the idea of the Gospel triumphant over Satan. The lectern has been executed under the surveillance of Sir Gilbert Scott, and is in the style of the fourteenth century. The platform is cruciform in shape, upon which rest four lions supporting the buttresses, which are surmounted with figures of the four evangelists. Upon the base is engraved the following inscription:—"To the glory of God in this Cathedral Church, the gift of Eliza Potts, late of this city, who died December, 1873." The lectern is now on view at the showrooms of the manufacturers, Messrs. Cox & Sons, of Southampton-street.

Baltimore, the *Times* says, has dedicated its new City-hall, an imposing edifice of white marble, which has been eight years building, and cost two and a quarter millions of dollars. It covers a square of ground in the heart of the city 238 ft. by 147 ft., bounded by Fayette, North, Lexington, and Holliday streets. The plan is a main building four stories high, with wings on each of the four streets three stories high. The architecture is modern Renaissance, the fronts being highly ornamented. Each wing is surmounted by a high Mansard roof, while in the centre of the main building there is an imposing dome which rises 240 ft. above the pavement, and contains a large clock and bell. The narrowness of the streets in the immediate neighbourhood, however, causes much of the architectural effect to be lost.

New Projects at Cardiff.—A large meeting of shareholders of the Glamorganshire Canal Company was held at Cardiff, on the 3rd inst., presided over by Mr. R. T. Crawshay, Cyfarthfa Ironworks. It was resolved to form a new company, with a capital of 100,000*l.*, to widen and deepen the entrance to the canal at Cardiff, to admit vessels of 1,200 tons register at neap tides, and to form a dock and to erect on it coal staithes for shipping coal, application to be made to Parliament next session for the necessary powers. Another company is about to be formed for constructing a railway from Cardiff to Barry, where a floating-basin is to be formed for shipping coal. The Penarth Dock and Railway Company are about to increase their accommodation for shipping coal.

Sanitation in Melbourne.—A society has just been formed in Melbourne called the "Australian Health Society," the objects of which are:—"(1) To create an educated public opinion with regard to sanitary matters in general by aid of the platform, the press, and other suitable measures; (2) to induce and assist people by personal influence, example, and encouragement to live in accordance with recognised laws whereby health is maintained and disease prevented; and (3) to seek the removal of all noxious influences deleterious to the public health, and to influence and facilitate legislation in that direction."

Reduction of Masons' Wages in Edinburgh.—The master builders of Edinburgh and Leith, at a numerously-attended meeting of their Association, have resolved, after a careful consideration of the state of trade and the supply of workmen, that the time had arrived when they should endeavour to bring down the operative masons' wages to the rate formerly agreed upon, viz., 8½d. per hour. It was further resolved that in the meantime notice should be given to the operatives that on and after the 5th inst. the wages for first-class workmen would be reduced to 9d. per hour. Their recent rate of pay was 10d. per hour.

Depositing Docks.—Messrs. Latimer Clark, Stanfield, & Co. have received orders from the Russian Government to construct one of their depositing docks at Nicolaeff, in the Black Sea. The dock is primarily intended for lifting the new circular ironclads recently built there, which are much too large to pass through any dock gates, being 100 ft. and 120 ft. in diameter, but it is equally adapted for raising ordinary ironclads and merchant vessels. This dock is intended not only to raise vessels of either form, but to lift them bodily out of the water, and deposit them high and dry on platforms along the shore.

The Liverpool Landing Stage.—At the last Liverpool Assizes a verdict was found against the Liverpool Gas Company for the destruction of the Liverpool landing-stage, in the month of July, 1874, through the carelessness of the company's workmen. The amount of the damage, which was roughly estimated at 100,000*l.*, was to be referred. The Gas Company gave notice of appeal, but subsequent negotiations have resulted in their agreeing to pay in instalments two-thirds of the net damage, and the Mersey Dock Board's legal expenses arising out of the late trial.

Burton-on-Trent.—The Town Commissioners of Burton-on-Trent have decided to call in the assistance of Mr. Thomas Hawksley, C.E., of Nottingham, with the view of adopting the best means of preventing the flooding of the town in future. Sir John Hawkshaw was nominated, but Mr. Hawksley had a large majority of votes.

The Lock Trade at Willenhall.—At Willenhall the lock trade continues remarkably buoyant and the greatest difficulty with which manufacturers have to contend is that of inducing their workpeople to do something like regular work. Many new factories have been erected and old ones extended during the last twelve months, and the use of machinery in lock construction has of late considerably increased. For bolts and latches a very steady demand continues to be experienced.

Burning of Glenalmond College.—At the disastrous fire which occurred at Trinity College, Glenalmond, Perthshire, on the 26th ult., the damage done is estimated at 20,000*l.* The buildings were erected in 1841, from plans by Sir G. G. Scott, and cost 90,000*l.* It is said that the fire originated through a plumber, who was making some repairs upon the roof, allowing his "chaffer" or hand fire-grate to fall and thus ignite the building.

Kensington Campden Charity Trust.—The trustees have lately come into possession of a considerable sum by the sale of freehold land, and they have decided to appropriate 50,000*l.* to the creation of a central school in Kensington, for promoting the higher general and especially the technical education of boys and girls. The trustees propose to hold an educational conference to discuss the details of the scheme before submitting any scheme to the Charity Commissioners.

Assyrian Exploration.—Mr. George Smith, of the British Museum, left London on the 5th inst. for the East, to resume his researches in Assyria. He will be absent six months, returning to this country in May. It is not unlikely he will leave England again in August to continue the explorations, which cannot be conducted during the rainy season.

Redditch Sewerage and Water Supply.—At a meeting of the Redditch Local Board, on the 1st inst., a report was submitted by the Public Works Committee recommending that Messrs. Gotto & Beasley, who had already in 1869 reported upon the subject, should be asked to give an amended plan and estimate for works for the extended boundary of the borough.

A Builder Fined.—Mr. W. Donn, who had obtained from the Vestry of Mile-end New-town a licence to hoard in a site for a new church in Jamaica-street, and to form a footpath, with handrail, for the convenience of the public, was fined 5*l.* and costs, by Mr. Paget, at the Thames Police Court, for neglecting to carry out this arrangement.

Presentation to an Art Master.—On the 26th ult. Mr. Anderson, headmaster of the Coventry School of Art, was presented with a "davenport," bearing the following inscription:—"To John Anderson, esq., from the students of the Coventry School of Art, in grateful recognition of his kindness and attention as headmaster. October, 1875."

Lectures on Sanitary Science.—On the 1st., at the Town-hall, Tamworth, the first of four lectures on "Simple Sanitary Science" was delivered by Miss Kenwick Miller. The lectures are given at the instigation of the Rev. Brooke Lambert, vicar of Tamworth, for the social improvement of the health of the working classes.

Asphalte.—The question between the Vestry of St. George's, Hanover-square, and the parishioners as to the responsibility of repaving the footpaths in Eaton-square, having been satisfactorily settled, it was decided to lay asphalte. This has been done by the Société Française des Asphaltes, we understand, with perfect success.

Co-operation in Cleveland.—Co-operation appears to be taking firm root in the principal mining districts of Cleveland. New stores at Guisbrough were opened on the 25th ult., the cost being 1,200*l.* Mr. Macara, of Darlington, is the architect, and Mr. Brown, of Guisbrough, the builder.

The New Poultry Market.—The London Central Poultry and Provision Market having been completed, it is decided to open the same on Wednesday, the 1st prox. We recently gave an illustration of the building.

A New Company.—A company has been formed to acquire the property of the "Purbeck Cement and Stone Company, Limited." The particulars will be found in our advertising columns.

The Keighley Surveyorship.—At a special meeting of the Keighley Local Board, on the 2nd inst., Mr. Robert Watson, Dewsbury, was appointed surveyor and nuisance inspector for the board, at a salary of 160*l.* a year.

Brannon's Patent Fireproof, Sanitary, and Permanent Works Company. — The Master of the Rolls, on the 6th inst., made an order for the winding up of this company.

Fine Art Lectures at Cambridge.—Mr. Sidney Colvin, Slade Professor of Fine Art at Cambridge, commenced his lectures for the present term on the 9th inst.

TENDERS

For alterations at the Myddelton Arms, Canonbury-road, Islington, for Mr. F. C. Garrett. Mr. John Viney, architect:—

General Work.

Shurmur	£297	0	0
Godden	275	0	0
Hawkes (accepted)	245	0	0

Fittings, &c.

Godden	£160	0	0
Hill	148	0	0
Shurmur (accepted)	135	0	0

Heath (pewtering), 65*l.*

For alterations at the Merry Monarch, Herbert-street, New North-road, for Mr. Young. Mr. John Viney, architect:—

Godden	£376	0	0
Shurmur	288	0	0
Steed (accepted)	269	0	0
Hill	267	0	0

Heath (pewtering), 71*l.*

For alterations at the Mitre Tavern, Edgware-road, for Mr. R. Webb. Mr. John Viney, architect:—

General Work.

Hind	£389	0	0
Henderson	330	0	0
Hoare	295	0	0
Shurmur	295	0	0
Godden	275	0	0

Fittings.

Hill	186	0	0
Godden	179	0	0
Shurmur	169	0	0

For villa, Upperton, Eastbourne. Messrs. Blessley & Spurrell, architects:—

	If commenced at once.			Deduct if left till May.		
Peerless	£3,655	0	0	£217	0	0
Steer	3,650	0	0	50	0	0
Longley	3,599	0	0	150	0	0
Perigoe	3,300	0	0	—		
Vidler (accepted)	3,294	0	0	127	0	0
Skinner	3,250	0	0	—		
Vaughan	3,050	0	0	—		
Kempling	2,988	0	0	10	0	0

For a house on Oakfield Estate, Hornsey-lane, for Mr. Munt. Mr. George Truefitt, architect:—

Payne & Balding	£1,800	0	0
Carter	1,740	0	0
Ball & Wickes	1,695	0	0
Sale (accepted)	1,647	0	0

For a cottage in Tufnell Park, N. Mr. George Truefitt, architect:—

Carter (accepted)	£500	0	0

For erecting the brickwork for a new steam laundry at Camberwell House, for Messrs. Paul & Richards:—
Brown, accepted.

For additions &c., to the Gospel Oak Congregational Chapel, Kentish-town. Messrs. Satchell & Edwards, architects. Quantities by Mr. C. A. Jaques:—

	New Work.			Decorations to Chapel.		
Mann	£1,410	0	0	£90	0	0
Scrivener & White	1,380	0	0	89	0	0
Thompson	1,370	0	0	60	0	0
Grover	1,392	0	0	36	0	0
Chessum	1,350	0	0	70	0	0
Manley & Rogers	1,297	0	0	79	0	0
Sanders	1,300	0	0	47	0	0

For the erection of a Baptist Chapel in the Highgate-road. Messrs. Satchell & Edwards, architects. Quantities by Mr. C. W. Brooks:—

Thompson	£11,950	0	0
Scrivener & White	11,824	0	0
Williams & Son	11,650	0	0
Manley & Rogers	11,559	0	0
Chessum	10,941	0	0
Southcott & Co.	9,841	0	0
Sanders	9,150	0	0
Tarrant & Sons	9,008	0	0

For the erection of a school-house at Crowborough Cross, Sussex. Messrs. Satchell & Edwards, architects:—

Paine	£450	0	0

For the construction of new sewers in Duke-street, Great Russell-street, Bloomsbury-square, Vernon-place, and Great Queen-street, for the Board of Works for the St. Giles's District. Mr. G. Wallace, surveyor:—

Dover & Co.	£5,413	0	0
Mowlem & Co.	3,771	0	0
Keeble	3,468	0	0
Crockett	3,390	0	0
Waddingham	3,351	0	0
Hoare & Co.	3,310	0	0
Culverhouse	3,300	0	0
Carey	3,250	0	0
Killingback	2,998	0	0
Waldram & Co. (accepted)	2,489	0	0

For constructing about 830 feet run of 12-inch pipe sewer, Walham-grove, Fulham, for the Fulham District Board of Works. Mr. Bean, engineer. Quantities supplied by Mr. A. J. Bean:—

Keeble	£505	0	0
Nowell & Robson	467	0	0
Thompson & Son (accepted)	445	0	0
Serff	394	10	0

For alterations and additions at No. 2, Craven-hill, Bayswater. Messrs. N. S. Joseph & Pearson, architects. No quantities supplied:—

Dowsing	£2,548	0	0
Hearn	1,949	0	0
Vernal	1,920	0	0

For new steam laundries and other works, at the Shoreditch Workhouse. Mr. J. Wallace Peggs, engineer:—

				Old Material.		
Crockett	£9,999	0	0	£109	0	0
Timewell	9,956	0	0	200	0	0
Downs & Co.	9,899	0	0	100	0	0
Staines & Son	9,773	0	0	110	0	0
Prout	9,668	0	0	100	0	0
Waldram & Co.	9,529	0	0	150	0	0
Aitchison & Walker (accpt.)	9,427	0	0	250	0	0
Hunt	9,358	0	0	140	0	0

The tender of Messrs. Niblett & Son, Hornsey-rise, was accepted on the 20th inst. by the War Office for building the new barracks, &c., at Hounslow.

TO CORRESPONDENTS.

House Decoration.—(Cancelled, having appeared elsewhere).—F. L. (forwarded).—B. & Co. (we have already given particulars of the building named).—H. C.—H. J. S.—G. W.—T. W. H.—E. P. L. S.—W. E.—C. A.—F. C. H.—Mr. T.—J. V.—J. F.—C. E. F.—H. St. J.—H. S.—T. H. A.—C. R.—J. C. P.—W.—N. W.—M. E. Hadfield.—R. S.—E. B (next week).—R. M. B. (next week.—H. S. C. (next week).—C. B.—P. & Co.—E. L.—F. K. S.—G. S.—R. Y.—E. W. H.—C. G.—G. J.—N. & Son.—H. P. H.

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